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316 655 (previously N.K.V.D.). Under the general direction of the latter a powerful state enterprise called 'Dalstroy' has come into being in the Soviet Far East. It has taken over many functions that are usually carried out by local government organs. Dalstroy is primarily a mining trust for the development of gold mining on the upper reaches of the Kolyma River. Similar to some mining companies in the colonies of other powers, such as the Société Minière du Haut Katanga in the Belgian Congo, the Dalstroy rules almost as sovereign master over the territory where it exploits the underground riches. Although administrative authorities do exist in the land of the Dalstroy they are completely dependent on the directorate of this enterprise.

635 625 The activities of the Dalstroy are many-sided. The 'Mining Administration' ('Gornoe Upravlenie') is only one of several big departments over which the Dalstroy director and his two deputy directors rule. In addition to the 'Political Administration', there is an 'Administration for Agriculture' supervising the work of the local collective farms and state farms, and an 'Administration for Road Building'. There are also a fair number of subsidiary trusts and enterprises which take their orders from the Dalstroy director. There are, for instance, the supply organizations 'Dalstroysnab' and 'Kolymsnab', the coal-mining trust 'Dalugol', a building trust, the state trading firm 'Magadantorg' and a special fleet which connects the Dalstroy with Vladivostok. This entire huge organization is kept together by a small army of M.V.D. men and by a whole network of 'political departments', the activity of which extends to the most distant parts of the Kolyma mining district. The bulk of the workers, technicians and officials of the Dalstroy consists of actual convicts, or of ex-convicts who have been set free because of [461] 'good behaviour'. A list of over 400 Dalstroy officials and workers who were awarded orders and medals at the beginning of 1941 shows that the Dalstroy is a microcosm of the Soviet Union. Indeed, a list of people decorated with the medal 'For Excellency of Labour' starts rather significantly with the following three names:

1. Abdulgasimov, Nazhim, miner;
2. Akopyan, Amayak Avanesovich, newspaper editor;
3. Aksenov, Vladimir Mikhailovich, driver. . . .[15]

Of these three the first is a Moslem, the second an Armenian and the third a Russian. The order is perhaps not very characteristic since the Russian element predominates by far among the more prominent Dalstroy people, but there are also Ukrainians, Georgians, Armenians, Jews and Moslems among them.

167 ● 361 The colonization activities of Dalstroy have changed the character of the hinterland of the Okhotsk Sea, which, until 1931, was still virtually uninhabited. The most palpable achievement has been the foundation of the town of Magadan, the post-war population of which has been

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167 estimated at 50,000–70,000 inhabitants. Official Soviet sources, while
●361 glossing over the strange origin of Magadan, have described it as an important cultural centre, including several houses of culture, dozens of clubs, cinemas, libraries, and two theatres, one for drama, the other for musical comedy. Former prisoners who passed through Magadan have asserted that the actors of the drama theatre were convicts, but Soviet sources of more recent date declare that they were recruited from Moscow drama schools. By December 1952, Magadan had grown large enough to deserve administrative promotion. A decree of the Presidium of the Supreme Soviet transformed it from a district town into a provincial town.[16]

Magadan is the largest locality which owes its existence to Dalstroy, but there are others further inland. One of them is Atka – a name which, at the first glance, seems to have an exotic Asiatic flavour, but is in reality an expression of the unromantic technological mind of Soviet Russia. It is simply an abbreviation of 'Avtotraktornaya Kolonna' (Motor Tractor Column), a tribute to the pioneer role of motorized transport in a territory without a railway. Even in 1946 Atka had large garages and automobile repair works where work never stopped, 'not even for a single minute'. Moreover, Atka produces electrical equipment for the purposes of Dalstroy.[17]

MILITARY COLONIZATION

167 Another interesting and unusual form of colonization introduced in the
729 Soviet Far East is what might be described as 'military colonization'.
241 Discharged soldiers of the Red Army, artillery and cavalrymen, infantry and members of the signal corps, as well as sailors of the Red Fleet, settled down with their families in the fertile border regions on the Ussuri River. These military colonists formed a kind of peasant militia ready to be called up at any time for the defence of the 'socialist fatherland'. The first 'Red Army' and 'Red Fleet' collective farms were formed in 1931. They soon became the pride of the entire Soviet Far East and the head of the administration of the F.E.T., Krutov, described them as a shining example for the entire Far Eastern peasantry.

Not all demobilized soldiers became agriculturists; some of them remained in the Far East as lumbermen and fishermen and many also worked on the Far Eastern railways, as has already been mentioned. At the beginning of 1938, 5,000 demobilized Red Army men were accepted into the service of railways. They were all provided with houses and small plots, and each of them received a government grant for the purchase of a cow.[18]

167 This last point is particularly characteristic of Soviet colonization
241 policy in the Far East. To increase its defence potential in the Far

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167 241 Eastern border areas the government made concessions even in the economic sphere. In European Russia only collective farmers were at that time allowed to own a cow as their own personal possession, never industrial or transport workers.

KOMSOMOL COLONIZATION

167 665 833 The military colonization largely overlaps with another special form of colonization in the Soviet Far East, which is carried out with the help of the Communist Youth League, the Komsomol. The Youth League is the backbone of the Far Eastern units of the Soviet Army. Towards the end of the inter-war period 60 to 70 per cent of the soldiers in the Far East were Komsomol members. Hence among the demobilized soldiers, too, there must have been a good deal of 'Komsomol spirit'. The Komsomol influence in the Far East is, however, by no means confined to the army. The entire Soviet Far East has been described as a 'Komsomol Territory'. This is true both in the figurative and in the literal sense. The Soviet Far East is 'komsomolsky' because it is a young pioneer country, but the Komsomol, the Communist Youth League, is also directly connected with the Soviet Far East as one of the principal promoters of its colonization.

Many Communist Youth League members went to the Far East as individuals out of a spirit of adventure and also out of a feeling of patriotic duty. The Komsomol, as an organization, was responsible for two big spectacular actions. One was the foundation of the town Komsomolsk-on-Amur, the other was the movement initiated by Madame Khetagurova.

The history of Komsomolsk goes back to the spring of 1932 when the Central Committee of the Communist Youth League chartered two steamers, *Kolumb* and *Komintern*, which sailed with 400 young people, including a number of Civil War orphans, to the village of Permskoe on the Lower Amur. (The village had been founded as early as 1858 by Russian peasant colonists hailing from the region of Perm in the eastern part of European Russia.) Even the first small party of Komsomol members outnumbered the local population of 160 inhabi- [361] tants. In the second half of 1932 many more young people arrived, and in December of the same year the All-Russian Executive Committee published a decree which transformed Permskoe into the town of Komsomolsk. The decree read well in the Moscow newspapers, but to the young builders of Komsomolsk it must have appeared utterly unrealistic. At the time when the decree was published they were in a state of despair. The building of the town had had to be interrupted in view of the harshness of the Russian Far Eastern winter, and the inexperience of the new settlers had resulted in great complications. During

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this early period of construction Komsomolsk had a street with the characteristic nickname of 'Street of Accidents', and a whole quarter was known as the 'Fire Settlement' ('Pozharny Posyolok').

Things in Komsomolsk went wrong for several years, and in 1937, when the city celebrated its fifth anniversary, the party authorities thought that the time had come to carry out a large-scale purge among the builders of the 'City of Youth'. One of the most distinguished citizens of the new town, the director of its metallurgical plant, then declared bluntly, 'We are mercilessly rooting out this scum of wreckers'.[19] 'This scum of wreckers' were people whom official Soviet propaganda had previously included among the selfless enthusiastic patriots engaged in self-sacrificing, heroic construction work. To justify the purge the party leadership alleged that 'agents of foreign intelligence services, bandits and diversionists' had penetrated into the ranks of workers and technicians of Komsomolsk, thanks to the complacency of certain leading personalities. According to the official version the 'enemies of the people' at work in Komsomolsk were very active and ingenious. They mixed concrete with sugar so that the degree of its cohesion was lowered, they put glass into ball-bearings to provoke accidents and destroyed vital blue-prints to delay the growth of local industry.

The real reason for the chaos in Komsomolsk was not the criminal activity of wreckers, but the lack of co-ordination between the various state trusts which owned the industrial enterprises in the town-to-be. Each of these trusts constructed a workers' settlement around its plant, and until 1940 there was no over-all building plan for the much advertised town of the Communist Youth League. This explains why sanitary conditions and municipal services were still practically non-existent, even by the outbreak of the Second World War.

The over-all building plan of Komsomolsk which came into being in 1940 provided for a population of 500,000.[20] Although the fulfilment of this aim is still far off, Komsomolsk has become an economic and cultural factor in the Far East. In 1947 the town had 100,000 inhabitants and was the proud owner of two undertakings of all-Union importance, the Iron and Steel Works, 'Amurstal', and a shipyard.[21] Cultural life, too, had developed greatly. The number of schools reached thirty-four in 1947 and forty-five in 1952. In addition, Komsomolsk has a Palace of Culture, a theatre, thirty libraries, a training college for teachers of secondary schools, a music school and four 'parks of culture and rest'.[22] It has tried to keep up its reputation as a 'City of Youth' and is still recruiting young workers from European Russia, particularly from among war orphans.

The second big Komsomol initiative for the settlement of the Far East, the Khetagurova movement, has its roots in the lack of women in the Far East and the necessity to remedy the situation. The well-

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higher. Since the agents were remunerated on a 'piece rate basis', they were naturally interested in enlisting the largest possible number of people. One can well imagine that the recruiters made use of all sorts of glittering promises and also that they paid little attention to the character and abilities of the prospective Far Eastern colonists. The afore-mentioned Madame Khetagurova who exposed in a Moscow journal this 'recruitment racket', concluded her account laconically: 'And so it happened that quite a lot of scum was sent to the Far East'.[24]

Those consenting to go to the Far East as free workers received upon leaving Moscow or another city of European Russia a special bonus and a maintenance allowance covering the entire long journey from European Russia to their final place of destination. The total amount of bonuses and allowances thus earned might not have meant a great deal to a Western worker, but it was a considerable sum for the impoverished Soviet citizen of the 'thirties.' It was tempting and led to abuses. Quite a number of people cashed the special remuneration, went to the Far East, worked there for a while and got themselves discharged for reasons of health. Having returned to Moscow they let themselves be recruited once more for the Far East by another state trust and the whole game started again from the beginning.

The majority of the voluntary colonists who, up to the end of the Second Five-Year Plan, came to the Soviet Far East established themselves in towns. The two largest cities of the Soviet Far East, Vladivostok and Khabarovsk, therefore grew considerably. Between 1926 and 1939 the population of Khabarovsk increased from 52,000 to 199,000, and that of Vladivostok from 108,000 to 206,000.

As a consequence of the growth of the existing towns and the foundation of new ones such as Komsomolsk, Magadan and Birobidzhan City, the relation between the urban and rural population in the Far East changed to the detriment of the villages. In 1926 only 24 per cent of the population of the Far East lived in towns, but by 1939 over half of all 'Far Easterners' could be classified as 'urban'.

The encouragement of the urban population in the Far Eastern provinces led to neglect of agriculture. During the period of the First and Second Five-Year Plans the area under cultivation in the Soviet Far East diminished by over 20 per cent, from 2,848,000 acres in 1928 to 2,223,000 acres in 1938. Consequently, instead of providing more for the newcomers, the food supply for the Soviet Far East became more dependent on deliveries from areas thousands of miles away. This created an unsatisfactory situation not only from the narrow economic point of view but also from the military which demanded complete self-sufficiency in fuel, raw materials and food. Molotov himself proclaimed the principal of self-sufficiency for the Soviet Far East at the Eighteenth Congress of the Bolshevik Party, in March 1939, and

chains traverse it from west to east, and these mountain chains with their spurs in part reach the coast, where they break off sharply. But this area also does not lack plains, for plains extend from the coast into the land on both sides of the rivers. 133

All these areas[1] are either very little settled or are completely uninhabited. Of the Russian coastal settlements only Okhotsk and Magadan as harbors have a certain importance. Worthy of note is the reindeer breeding of the Chukchee on the peninsula named after them. 311

South of the Anadyr' lowland rises the Koryak Range, which fills the entire area as far as Korff Bay. Some mountain ridges, only a little separated from one another, traverse the land in a wide arc from the southern end of the Anadyr' Bay in the direction of the Kamchatka Mountains. Only near the coast have the rivers dug out deep valleys; here forest growth appears, while the high areas and the ridges are covered by pure tundra. 133 [137]

The coast of the Bering Sea has numerous native and Russian fishing settlements; the hinterland, on the other hand, is occupied only by small Paleoasiatic remnant peoples, who pursue reindeer breeding. [361].

Kamchatka Peninsula is one of the most interesting regions in the Soviet Russian Far East. The relief, which just like Sakhalin gets its main characteristics from two mountain ridges, is extraordinarily varied, for numerous young volcanos are set on the mountain ridges, and a number of these volcanos are still active. The Klyuchevskaya Sopka, the highest volcano on the peninsula, rises from the valley of the Kamchatka River to a height of 4,775 meters and makes an imposing picture with its ice-capped peak. Because of the abundant rainfall and the mild climate, the plant covering of the peninsula is very luxurious. On the outer mountain slopes deciduous forests predominate, only /33/ in the interior of the peninsula do fir-pine forests appear. The only exception on a larger scale is the west coast, on which tundra-like moss steppes have developed. In addition to numerous Russians who occupy primarily the coastal fishing villages, the Paleoasiatic Koryak and Kamchadal have remained in the interior. 137 162 361

The volcano belt of Kamchatka continues toward the south in the island chain of the Kurils, which after World War II went to the Soviet Union along with the southern half of Sakhalin Island. 133

1 [i.e. the Okhotsk coastal area and the Anadyr' area -- Analyst]

The Russians

563 167 361 The original Cossack settlements formed the basis of the Russian colonization. According to the treaties of Aigun and Peking, the Amur and Ussuri Cossack formations were put next to the Transbaykal Cossack army assigned to the Argun. In the period from 1858 to 1862, 23 such Cossack settlements with 5,000 people came into being on the Ussuri and 75 on the Amur. These Cossack outposts consisted of loosely laid-out villages and also of individual settlements, which were organized in a military fashion for the protection of the border, but which in addition had to maintain themselves economically. For this there was distributed to them large landed property which extended along the Argun, the Amur, the Ussuri and the Suifun along the Chinese border. Successive settlers attached themselves to these strips of settlements, made them more densely populated or extended them. Thus there came into existence, on the one hand, the remarkably long strips of settlements along the border rivers, settlements which extended into the hinterland only where favorable conditions allowed new land to be developed without much work; and, on the other hand, there came into existence among the settlers themselves a certain organization which can be observed in typical characteristics even in recent times. Near the borders on the better land near the rivers sit the old settlers with large pieces of property; mostly these old settlers are descendants of the Cossacks who, after years of fighting, deprivations, and also successes, became enterprising culture pioneers who did not shy from risks, and who represent a powerful, hard, self-conscious race of people. On the other hand, to the side in the interior, mostly on land of slight value, live the the new settlers who came later; they have preserved all the typical characteristics of the East European Russian with his strengths and weaknesses.

563 167 162 Despite various laws favoring emigration of Russian citizens--the first law in this connection was enacted in 1861--/113/ and despite many facilities and much fostering, colonization proceeded only very slowly in the first decades. All recruiting measures had only slight success. The difficult, long land route through Siberia and also the long sea trip frightened many off. Only with the building of the Transsiberian Railway did a stronger stream of immigration begin, and the population east of Lake Baykal was already 1,622,000 by 1911; of these 1,225,000 were Russians and around 20,000 were other Europeans. Of the remaining population of 379,000, the greater part were Buryat, who numbered 205,000, and the remainder was divided between

563 167 162 Chinese, Koreans, and numerous small indigenous peoples. The disorders of the revolution after World War I brought many Russians to the Far East. Planned measures for colonization instituted by the Soviet government contributed to this, and by 1926 the population east of Lake Baykal reached around 2.3 million and had risen to 4,040,000 persons by the time of the last census on January 17, 1939. The increase consisted principally of Russians. By 1939 in the Buryat Mongolian ASSR the Russians had an absolute majority with 52.7 percent (in 1941, 57.2 percent) of the entire population of 542,000. In the Chita region, with a total population of 1,159,500, the number of Buryat and other natives can be estimated at most at 50,000, and in the Khabarovsk and coastal region, with a total of 2,338,100 inhabitants, the percentage of indigenous peoples is only 3 percent.

The main part of the Russians are occupied with agriculture and cattle breeding. In addition, fishing and hunting serve as an additional occupation. The professional Russian hunter, the "Promyshlennik," a real runner type, still hasn't died out. The number working in industry has increased sharply in recent years.

563 361 342 Even here the Russian peasant continues the life he used to lead at home, and he troubles himself here no less than he did there. Accordingly one can often recognize in the type of settlement where the settler came from, even if it was decades and more ago. The Great Russians, especially those from the northern regions, prefer residences on rivers and in wooded areas. Their houses are built in the same block house style of the "izba" they used to live in. Hunting and fishing are very popular with them. The White Russians also prefer wooded areas. The Ukrainians, on the other hand, are mostly better farmers; they are to be encountered in especially large numbers in the Khanka Lake area, which is relatively free of woods, and around Bochkarevo /now: Kuybyshevka/, and they are descended in large measure from Cossacks who had been sent from the Don area. Their houses show the same whitewashed mud walls and are covered with straw like their "khata" in the Ukraine, although there is really no shortage of wood. Although there are often rivers flowing nearby, they dig a well near the house as a rule because well water, as they say, is cooler and more tasty. Woods in /114/ the vicinity of Ukrainian settlements soon are destroyed; the Ukrainian uses not only the axe but also fire against the woods. The Ukrainians are especially successful with cattle raising.

The cities, too, show the usual Russian face. In the center of the larger cities there are, in addition to narrow tenement houses, some

pompous, mostly very tasteless buildings of the Czarist period. But in the suburbs one-story log houses with four or more windows often line the unpaved streets with wooden sidewalks for kilometers. In the period of the Soviet regime the large cities have acquired entirely new sections which are transected with asphalt streets lined with trees, and on these streets rise light, detached apartment buildings, often with four or more stories; these apartment buildings seem almost like skyscrapers against the otherwise flat picture of the city. Chimneys and thick, reinforced concrete buildings of the factories, which today are most striking, rise above the new buildings as a rule. Thus in the cities there are the contrasts ranging from the old, primitive, peasant-like suburb to the most modern industrial establishments. Nevertheless, almost nowhere does one note that he is in the Far East. Even in the Chinese quarter of Vladivostock there stand the same whitewashed tenement houses, and only the Chinese writing and the nearby junk harbor betray the fact that one is in an east Asiatic harbor city.

The state-directed economy with its tight compression into cities and collectivization in the country has introduced many new traits in the life and work of the people, and many old, proved things have been destroyed. It has mixed people up and done many new things, so that everything is in the process of fermenting, of being reformed even in the folk life of the Russians.

Chinese, Koreans, and Others

In Transbaykal Chinese are encountered very rarely. They used to be there in larger numbers as traders in Maimache, the present Altin-Bulag, opposite Kyakhta on the Mongolian border, but they were driven from there during the uprising of the Mongols after the first world war.

The first Chinese came to the Amur and Ussuri country as ginseng-seekers, as "panten"/unhardened antlers/ hunters, and as traders, and later also as settlers. As culture pioneers they were valuable everywhere in the wilderness where they could practise agriculture, which they pursued industriously and successfully. Their ability to make capital out of everything, however, soon made them into unscrupulous exploiters of the natives, and, accordingly they were unwanted guests under the Russian administration, especially since they carried their rich earnings out of the country, then /115/, as a sworn community in trade, they suppressed all competition. They

memorial. The immigration of additional Koreans, however, began only after the Treaty of Peking, and in this immigration the southern region was their preferred goal. These Koreans always came with their wives and families, and the majority of them were /116/ farmers. They are a valuable part of the population and show especial skill in growing Manchurian plants such as millet, beans, and rice. In addition, they keep cattle as work animals and pigs. They have succeeded in extending the cultivation of rice to the north as far as the Khabarovsk region. Of the approximately 170,000 Koreans (1939) who live in the Soviet Union, around 100,000 reside in the Ussuri region. A part of the remaining Koreans have been resettled in Turkestan where they live as rice planters on the Syr Dar'ya and the Iliysk.

A few thousand Japanese resided in the coastal cities up until World War I, but since then the number has constantly decreased and amounts now to a few hundred at most.

Worthy of mention as a special group are the Jews, who have their own autonomous region west of Khabarovsk on both sides of the right tributaries of the Amur, the Bira and the Bidzhan. Of the entire population, which number 108,400 (1939), approximately half are Jews, who engage in all vocations and who not only come from the Soviet Union but also from other countries.

In addition there are, scattered over the entire region east of Lake Baykal, Poles, Lithuanians, Latvians, Moldavians, Tatar, and others, including Germans; in short there are representatives of all peoples who reside in the Soviet Union. Their total number may be estimated at approximately 20,000 to 30,000.

Distribution, Development, Structure

With the overwhelming vastness of the area and the extraordinarily uneven distribution of the population, figures on the density of population have scarcely any meaning. The main part of the population, comprising about 90 percent, cluster together in a long, extended zone of settlements, which begins at Lake Baykal and stretches along the Amur and Ussuri to Vladivostok. The zone, which is otherwise narrow, attains a greater width in some areas.

In Transbaykal only the river areas of the Selenga and of the Amur are thickly settled, while in between in the area of the Yablonovyy Ridge there is a certain thinning out of the settlements. The valley region of the Selenga, which is occupied primarily by Buryat, attains

361 in some counties a density of 15-20 persons per square kilometer.
161 East of the Yablonovyy Ridge, between Chita and the Argun, there is a second densely populated zone, where the density reaches up to 20 persons per square kilometer in the agricultural area of black earth. The larger northern part of Transbaykal, however, is only very lightly settled, and the wooded wastelands of the plateau area of the Vitim are for all practical purposes not settled at all. Only gold mining has given rise to settlements scattered here and there like dots.

In the Amur area the river itself and the railroad stand out as the guiding lines of the settlement. The narrow area between the two, however, /117/ is not always occupied throughout. In the Zeya-Bureya plain the civilized area then enlarges into an extensive, closed-off plain of settlements; in this plain the landed estates of the former Cossacks lie on the Amur; adjacent to them in a broad band are the cultivated fields of the old settlers, while the new settlers are distributed more on the outer rim. In the Zeya-Bureya plain lies 80 percent of all the cultivated area in the Amur region. In some sections the density of population here, too, reaches 20 persons per square kilometer. East of the Bureya a strip of settlements stretches along the railroad, while a second follows the Amur. In the Khabarovsk area the two meet. From there the thickly-settled zone winds along the Ussuri to the south. After the Iman, a tributary of the Ussuri, the zone stretches out to a width of up to 250 kilometers and so reaches Vladivostok. In this region between Iman and Vladivostok lies approximately 75 percent of the cultivated area of the coastal region.

On the lower Amur there is no extensive area of settlement. Here the population is concentrated in the two cities of Komsomol'sk and Nikolayevsk and in individual villages which lie along the river's course, just as individual village settlements outside of the settled zones described are generally to be found only along the courses of rivers. Even in 1952 there were only 30 kolkhoz in the region of the lower Amur. On the coast of the Ussuri region there are relatively few colonies. The southern part of this coast is somewhat better settled, since the coast is more open and the treasures of the soil existing abundantly there create opportunities for employment for a larger population. The Ol'ga Bay and its hinterland should be mentioned here especially as being heavily settled.

The interior of Sikhote-Alin' like entire distant north of the Far Eastern area as far as the Chukchi Peninsula is extraordinarily thinly settled. Here the density of population sinks to 0.1 per square

kilometer and lower. Here primarily are indigenous peoples, who wander through the vast, immense land as reindeer breeders and hunters. The sources of food in the sea, however, have also lured many people to the coast, on which, at greater or smaller distances from one another, there can be found again and again fishing settlements inhabited by natives, often intermixed with Russians. In recent times fishing kolkhoz have been founded according to plan in all the favorable places, and they have been occupied by Russians. The most important places are at the same time starting points for land routes into the interior; this applies to Ayan, Okhotsk, Magadan, and Gizhiga on the Okhotsk coast. Kamchatka has increased its population greatly in recent years because of the great rise in fishing and hunting of sea animals. In 1950 the total population was approximately 130,000, which was five times as much as it was in 1926. However, the main stream of immigrants came here, too, to the coastal places, especially Petropavlovsk, Ust'-Kamchatsk, and Bol'sheretsk. Despite the important growth in population, the density of population in Kamchatka has scarcely reached 1 person per square kilometer.

/118/ Sakhalin, too, like Kamchatka has had a large immigration. However, here the immigration is explained above all by the development of the petroleum, coal, and fish industries, all of which are located near the coast; accordingly the population is compressed into these areas, while the uneconomic interior is in large measure uninhabited. Only in the valley of the central depression are agricultural settlements encountered. Southern Sakhalin, which was Japanese until 1945, also shows somewhat the same picture in the distribution of its population. The number of inhabitants exceeds that of northern Sakhalin, but here, too, the population is compressed into the coastal area, whereas the interior, as in northern Sakhalin, is occupied for the most part only by small groups of old peoples such as the Olcha, the Orokl, the Gilyak, and the Ainu. In southern Sakhalin there were in 1940 still 1,500 Ainu, who in numbers rank above the other old peoples. The number of the other remnant peoples scarcely reaches 500. The evacuation of the Japanese has given the Soviet Union the task of filling the land with its own people, and, according to all information available, they have succeeded in this. In the process other people have moved in to the former Japanese settlements, but the spatial distribution remains the same. The numerical changes in the population will be discussed later. [166]

The data of the censuses from 1926 to 1939 are available for

51 percent in the coastal district. The increase in the urban section of the population indicates that immigration which formerly served predominantly to foster agrarian colonization, now serves the industrial build-up more.

The increase in the urban population is made graphic in the growth of cities. In 1939 there was a total of seven cities with more than 50,000 inhabitants; except for Blagoveshchensk, they all increased in size, as follows:

	1926	1939	Increase or decrease in percent
Ulan-Ude	29,918	129,417	+ 347.5
Chita	61,526	102,555	+ 56.7 /sic/
Blagoveshchensk	61,205	58,761	- 4.0
Komsomolsk	---	70,764	---
Khabarovsk	52,045	199,364	+ 283.1
Voroshilov	35,344	70,628	+ 99.8
Vladivostok	107,980	206,432	+ 91.2

Almost a quarter (22 percent) of the entire population of the Buryat Mongol ASSR lives in Ulan-Ude. The city of Chita, however, contributes only 9 percent to the population of the region. Here the urban-industrial population is distributed among numerous places. In the Khabarovsk region the three cities Blagovshchensk, Khabarovsk, and Komsomolsk together comprise only 23 percent of the total population and something more than half the urban part of the population. Komsomolsk is a new establishment as a city and did not exist in 1926. In the coastal district the relations are similar to those in the Buryat Republic. Here around 23 percent of the total population is concentrated in Vladivostok alone. Together with Voroshilov, the two cities together comprise 31 percent of the total population. Apart from Chita, then, all the above-mentioned cities are important population centers which stand in contrast to the vast and thinly-settled regions.

/120/ Urban and Rural Population According to the Census of 1939

	Urban Population	Rural Population	Total
Buryat Mongol ASSR	163,425	378,745	542,170
Chita Region	510,900	648,578	1,159,478
Khabarovsk Region	647,653	783,222	1,430,875
Coastal District	464,509	442,711	907,220

K4 361 To these inhabitants listed in statistics for Transbaykal and the actual Far Eastern regions must be added another population, which can to a certain extent be designated as invisible, for figures on this population appear neither in official pronouncements nor in any other Soviet statements. These are the work camps, which /124/ play a not unimportant role economically because of their mobility and their massing of manpower. Little exact information can be given in detail on their employment. It is known that there are work camps in Transbaykal and also in the lower Amur region and further that most of the workers are assigned to building the Baykal-Amur railroad and also to gold and other mining installations in the area of the upper Kolyma and also in other places. The existence of the work camps makes it difficult to judge or to determine the human work potential in the individual regions. In no case can they be overlooked.

161 In conclusion a summary is given of the population in the individual regions according to the calculated level of 1950:

1.	Buryat Mongol ASSR	600,000
2.	Chita Region	1,200,000
3.	Amur Region	900,000
4.	Khabarovsk District	1,500,000
5.	Coastal District	1,200,000
6.	Sakhalin Region	900,000
	Total	6,300,000

161 361 Estimated Growth of the Largest Cities

	1939	1950
Vladivostok	206,432	300,000
Khabarovsk	199,364	300,000
Komsomol'sk	70,764	150,000
Voroshilov	70,764	150,000
Ulan-Ude	129,417	150,000
Chita	102,555	150,000
Blagoveshchensk	58,761	60,000
Artem	more than	50,000
Magadan	more than	50,000

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(Captions to Map on page 235)

1. Baykal Daur
2. Nerchinsk Daur
3. Vitim Plateau and the northern mountain forest provinces
4. Olekma mountain country and the Olekminsk Stanovik
5. Oldoy-Zeya mountain country
6. Zeya-Bureya plain
7. Bureya mountain country
8. Amur plain
9. Sikhote-Alin'
10. Ussuri-Khanka depression
11. Sakhalin Island
12. Area of the Amgun and the Uda
13. Okhotsk coastal area
14. Provinces of the extreme northeast
15. Kamchatka Peninsula

responsible for 32 percent. On the Transbaykal side, in the area of 228
the Buryat-Mongol ASSR, approximately 30,000 double centner of
fish are caught annually; in good years even more than 35,000 double
centners of fish are caught. Thus a series of fishing settlements animate
the Transbaykal shore. The most important are Nizhne-Angarsk, 361
which lies on the extreme north east tip, Ust'-Barguzin at the mouth [255]
of the river of the same name, where there is also a fish canning
factory, and, south of this, Goryachinsk, which in addition to fishing [312]
is acquiring a growing importance as a health resort because of its hot
springs.

Baykal Daur

Baykal Daur begins in the west with the Khamar-Daban. This 133
mighty mountain massif, projecting up to 2,217 meters, follows the
southern shore of Lake Baykal. Along this shore, runs the railroad
which encircles Lake Baykal and which is forced to follow all its
windings. This mountain massif is little divided and has predominantly
soft forms with dome-like heights which are seldom rocky. These
heights, as Prassolov describes them (160), give the impression of being

160. Prassolov, L.I. Iuzhnoe Zabaykaliye /Southern

deposits can be reckoned among the richest in the Soviet Union. Thus, here in the middle of a remote wasteland a small industrial area has come into being, whose center is the town of Gorodok and which already has more than 10,000 inhabitants. The center is a large wolfram-molybdenum works with modern mines, ore dressing installations, conveying and suspension railroads. The valley slopes here are still grown over by thick taiga. However, toward the east the forest withdraws from the lower slopes, which appear far from one another and form an extensive grass steppe area, which merges with the Selenga steppe without interruption. The valley of the Dzhida is bordered on the south by the Dzhidinskiy Mountain Range named after the river. The Mongolian border runs along the watershed of this mountain range.

The Khamar-Daban continues toward the east with dimensions which become smaller morphologically and geologically. However, the Selenga, which breaks through the mountain in a narrow valley, is usually considered to be the eastern border of the Khamar-Daban. The Selenga circumscribes the eastern part of the Khamar-Daban and empties into Lake Baykal in a broadly projecting delta.

/213/ /Sketch Map of the Buryat-Mongol ASSR:/

/214/ The Selenga Delta is a heaped up plain /Aufschüttungsebene/, which on the mean lies 7 to 8 meters above the water level of Lake Baykal, to which the delta slopes in terraces. The lower terrace, which already bears sea deposits, is completely flat, while the remaining parts are gently rolling. The northeast, the real present-day delta, is traversed by numerous dead and living arms of the Selenga, while the southwest is flowed through by some tiny little rivers, which come directly from the Khamar-Daban. In terms of its landscape, the delta represents a dry steppe, in whose lower, sunken-in parts swamps are imbedded. The delta is fairly heavily populated by Russians and Buryat, who pursue both fishing and agriculture. Irrigation is used in the agriculture. The center of this area is Kabansk, where the railroad coming from the west touches the Selenga for the first time. The products of the fishing are stored here in modern cold storage installations and made ready to be transported away.[1]

From here the railroad uses the valley of the Selenga and reaches Ulan-Ude, the capital of the Buryat Republic, above the break-through by the Khamar-Daban. The city lies on the right bank of the Selenga at the mouth of the Uda, which is navigable by rafts. In 1926 still a small, dusty steppe town with 29,918 inhabitants, Ulan-Ude by 1939 had become a modern industrial city with 129,419 inhabitants. In

[1] [i.e. Kabansk -- Analyst]

•361 this city almost 25 percent of the total population of the Buryat-Mongol
[377] ASSR have been brought together. Ulan-Ude has the largest locomotive and railroad car factory in eastern Siberia; this factory supplies the whole Far East. Supported by the Buryat's important breeding of livestock,
[253] the largest meat factory in Siberia, which produces canned meats, frozen meats, and other preserved meat goods has come into existence. The meat plant is in a position to process 400 cattle, 1,000 sheep, and 250 pigs a day. In 1940, 25 million cans of meat were sent out. Two large
[378] glass factories make Ulan-Ude also the supply center for crockery and glass goods for the entire Soviet Far East. Lying on a river and a rail-
[376] road, Ulan-Ude is favorably located in terms of transportation. At the same time Ulan-Ude is also the center of the Selenga water transportation, for which river steamers and barks are built in the city's own dockyard. Steamers not only carry traffic downstream but also carry it up the tributaries, for example on the Chikoy, which runs through agricultural regions. Of no less great importance is the floating of lumber, since the tributaries of the Selenga come from areas rich in forests. Here
[313] again the lumber streams into Ulan-Ude, where it is processed in large sawmills. Iliynsk, which lies on the Selenga 57 kilometers below the capital, is also an important wood-processing center.

133 Ulan-Ude lies at the point where the Selenga Valley unites with the valley of the Uda. As a contiguous graben depression, the two form a morphological-tectonic unit, and in their natural state, they were once a steppe. /215/ /Sketch Map of the Buryat-Mongol ASSR:/ 3 /216/ These two valleys today are the most heavily populated and economically the most important regions in the Buryat-Mongol ASSR.

Above Ulan-Ude the valley of the Selenga soon expands into a hilly to gently rolling, pure steppe landscape, which continues over
487 the border into Mongolia. It is traversed by the old caravan road, which connects Ulan-Ude with the capital of the Mongolian People's Republic, Ulan-Bator, the former Urga. At the border crossing Kyakhta (approximately 10,000 inhabitants) lies opposite the Mongolian Atlan Bulak
491 (Chinese: Maimachen). This overland route, expanded into an auto-
496 mobile highway in the period of the Soviet Union, has since 1938 been supplemented by a railroad line, which branches from the main line at Ulan-Ude but does not follow the old road. Rather it goes around Gusinoye Lake in a western arc and reaches the border at Naushki, approximately 20 kilometers west of Kyakhta. A lengthening of this
491 railroad to Urga was carried out in 1949. A land route usable throughout the year by trucks branches off from Novo Selenginsk toward the west into the river area of the upper Dzhida.

133 peculiarity of these lakes depends on the rock in which they are set. If such lakes lie within eruptive stone, they are as a rule alkali, i.e. they contain and deposit soda (Doroninskoye, Ononskoye, Borgoyskoy
37 Lake). In winter when the climate is dry, soda crystallizes out from the frozen surface of these lakes while strong winds raise up these soda crystals from the ice and deposit them in the immediate and distant environs, thus fostering the mineralization both of the ground water and also of the surface water. In order to extract soda, the soda crystals, which look like a white tinge on the ice, are swept together; thereby 20 to 25 tons of highly concentrated soda lye can be gotten from a hectare of ice surface. In order to foster the crystallization out of the soda, the ice is beaten open so that the lake water comes out under its own pressure through the openings and floods over the surface of the ice. If the lakes lie within Jurassic sediments, then sulphate forms as a rule, especially mirabilite. Deposited under the floor of Selenginskoye Lake is a layer, several meters thick, of sulphate of soda, whose supply is in millions of tons. Alginskoye Lake also belongs in this group. The railroad from Ulan-Ude to Naushki is supposed to lead to the opening up of the important salt deposits in the area of the Gusinoye Lake; the brown coal deposited in the same area is supposed to serve as a basis for this. A large sulphate plant is already in production. At the
361 Gusinoye Lake station a city with more than 10,000 inhabitants has grown from an unimportant village. Coal mines from here supply the railroad. In addition sawmills, brick yards, great dairies, and a fish-canning factory have come into being there. In the fish-canning factory the catch from Gusinoye Lake is processed.

133 The steppe regions which appear in southern Transbaykal vary
137 greatly in their economic importance. In the most southerly areas the artemisian steppe extends over a very wide area: it extends not only over the valley areas but also over the mountain slopes and mountains of the mountain ranges, which here are mostly low. In its driest parts the ground is often covered only 40 percent to 50 percent with plant growth, and the height of the grasses scarcely reaches 15 to 20 centimeters. These are poor meadows. Toward the north, through the thickening /218/ of the covering of vegetation and through the increase in the grasses, this type of steppe gradually changes into the artemisian grass steppe, in which the grasses become 35 to 40 centimeters high. These steppes are used as meadows in the spring and in the first half of the summer--as long as the vegetation still hasn't withered away under the summer heat. Both types of steppes have developed on chestnut-colored

Both types of steppes[1] have developed on chestnut-colored soil. Within these steppes salt-pans also appear. Further toward the north the soil becomes darker, its humus content becomes greater (3 percent to 5 percent), it changes into the so-called southern black earth, which has only a slight thickness and has a carbonate layer lying near it. The plant growth becomes richer, the contiguousness of the vegetation covering becomes thicker. These are pronounced grazing areas for sheep and goats. For large livestock they are still not sufficient. For such livestock only the meadow steppes can be considered; these meadow steppes often cover large areas along the rivers. To this category belong the Selenga steppes and the valleys of the Dzhida and the Uda. A similar change in the character of the steppes takes place in the direction of the individual mountain chains, with the various types of steppes surrounding the mountain ranges in Isohypsen /isohyetal?/ contours.

The principal importance of the Selenga steppes lies in livestock breeding, which is intensified by the breeding of valuable breeds. The most important regions here are the areas left of the Selenga and the already mentioned valley of the Dzhida. The old yurts of the Buryat have disappeared, and in their place small, permanent, modest wood houses have appeared which in long rows surround the kolkhoz buildings of the concentrated livestock economy. However, in the less favorable grazing areas, as in the Kundara steppe east of Kyakhta, the old Buryat life has been retained. For processing the resulting skins, a rather large leather processing plant has been erected here on the middle Chikoy under the name of Chikoyskiy Zavod. This plant also draws its raw materials from Mongolia. The cultivation of grain is more in the foreground in the other regions on the right side of the Selenga, especially on the lower courses of the Chikoy and the Khilok.

The broad steppe valley of the Uda is the second most important animal breeding area in the Buryat-Mongol ASSR, especially since here numerous Russians have been drawn into animal breeding. In the area around the upper course of the Uda, in the region of the Yeravninsk plain, which is rich in lakes, numerous Russian villages have come into being in which, in addition to slight agriculture, excellent dairy farming is pursued. The largest localities in this region are Gunda and Somovo-Ozerskoye.

East of the Selenga, rising from its delta, is the mountain ridge of the Ulan-Burgassy, which forms the watershed between the Uda and the Turka, which empties into Lake Baykal. This mountain range is broader than the Khamar-Daban and has a marked plateau-like surface

[1] [i.e. artemisian and meadow steppes -- Analyst]

peculiar only to dry climates. At the foot of the Ikatskiy Mountain Range numerous warm springs bubble up; these springs contain above all sulphates. In addition there are mineral lakes, which, like the Alginsk lakes, lies in a basin of sulphate of soda of significant thickness. Below the locality of Barguzin the mountains come right down to the river and shut off the extended valley basin. Here begins the third part of the Barguzin Valley, the breach valley of the Barguzin toward Lake Baykal. On the right side the mountains press forward right to the river and present picturesque, alluring landscapes. On the left side, on the other hand, the mountains withdraw more or less /220/, making free a flat area along the shore. This landscape on the lower course of the river accompanies the river for almost 40 kilometers. Thus the Barguzin Valley presents an extremely remarkable landscape. Epsom salt lakes between alluvial swamps and lakes in the valley basins of rivers rich in water; wide development of sands with dunes and steppe vegetation; traces of desert-like disintegration; permafrost; warm springs; thick taiga on the circumference; snow-covered mountains in the background: all this shows a heaping up of contrasts such as is undoubtedly rarely found on the earth. The area around the upper course of the Barguzin has alluvial sands rich in gold. For the rest this area is traversed only by Tungus reindeer breeders. The other part of the valley basin is an island of settlements in the middle of uninhabited mountain forests. Numerous Russians and Buryat here devote themselves to the breeding of livestock and to very considerable agriculture with irrigation. The rivers coming from the side valleys of the mountain range are used especially for the irrigation of the fields. The center of the main area of settlement is the village-city of Barguzin, which always has several thousand inhabitants. This city lies on the river of the same name. The Barguzin River is also navigable from here down and, via Lake Baykal, it represents the sole connection with the outside world.

[133] [342] [135] [135] [361]

Just north of the mouth of the Barguzin the Svatoy Noz Peninsula adjoins the land. This peninsula forms an island which is 55 kilometers long and is transversed by two mountain ranges which are up to 1,587 meters high. Only later is this island joined to the shore by a flat narrow piece of land. The material for this is supplied by the Barguzin, the heaping up and the alluvium provide for the current and the waves of Lake Baykal. The original view that the peninsula is a continuation of Ol'khon Island has shown itself to be incorrect, as Busch has shown. On the contrary Ol'khon Island is an underwater ridge running to the

/33 northwest of the peninsula and separated from the peninsula by a channel. The Ushkani Islands northwest of Svatoy Noz, on the other hand, rise on this ridge and consist of the same stone as Ol'khon Island.

South of the Uda valley depression there next follows in parallel strips, running in the direction of Lake Baykal, the ridges of the Tsagan-Daban and the Khudunskiy Mountain Range, then--beginning in the west on the Khilok--the Saganskiy Mountain Range and the Tsagan-Khurtey, which is bordered on the south by the broad valley of the Khilok. The railroad follows the upper part of the Khilok. Between Khilok and Chikoy there then rises the Malkhanskiy Mountain Range which on the east flows into the Yablonovyy Ridge. All the valley depressions, such as that of the Uda, the Khilok, and the Chikoy, which on the west over a great width melts into the Selenga steppes, put on a different face the farther one goes to the east. The differences in height between the bottom of the valleys and the ridges become smaller, the slopes become flatter, the mountain forms become round, often with almost flat watersheds. The bottoms of the valleys lie at 850 to 950 meters above sea level, the passes have a height of 1,000 to 1,150 meters, and the peaks are 1,200 to 1,400 meters high. Toward the east the climate becomes markedly more contrary and damper, and accordingly the bottoms of the valleys /221/ show signs of increasing swampiness.
•361 Correspondingly the population, which is limited almost exclusively to the valleys, also decreases toward the east. Because of the railroad line the valley of the Khilok is the best inhabited. In this connection Petrovsk-Zabaykal'skiy should be mentioned. It lies on the railroad line coming from Ulan-Ude on a section between the Saganskiy Mountain Range and the Tsagan-Khurtey and has the largest single foundry in Transbaykal. The iron ore is delivered by the mines of Balyagansk northwest of Petrovsk, and the coal comes from Tarbagatay and Khalyarta in the valley of the Khilok. All three localities lie not far from Petrovsk and are connected to the main line by railroads. The valley area of the upper Khilok and that of the Chikoy are distinguished from the other regions in Transbaykal by the fact that in these valleys summer rye is well cultivated as grain for bread, while otherwise the cultivation of wheat predominates.

Apart from the above-mentioned coal mining localities, the city-like settlements of Khokhotuy and Bada, known for their processing of lumber, and also Khilok and Mogzon lie on the railroad line east of Petrovsk-Zabaykal'skiy and still in the valley of the Khilok, which flows into the Selenga. Khilok and Mogzon have, in addition to food

industry, metal and machine factories. East of Mogzon the railroad crosses the Yablonovyy Ridge and enters Nerchinsk Daur. 361

Nerchinsk Daur

The Yablonovyy Ridge, which is among the best known mountain ranges in Transbaykal, forms the boundary between the two Daurs. The Yablonovyy Ridge forms the watershed between the rivers flowing into the Amur and those flowing into the Selenga, and thus in the broadest sense it separates the sphere of rivers flowing into the Pacific from the sphere of rivers flowing into the Arctic Ocean. However, this applies only to its southwestern part, for above the Chita River the Yablonovyy shoves in between the Vitim and its tributary the Karenga, and further to the northeast it divides the river area of the Vitim from that of the Olekma, all of which flow toward the north to the Lena. In addition, the Yablonovyy Ridge forms a remarkable climatic and plant-geographic border. The influences of the east Asiatic monsoon penetrate as far as this mountain range and permit deciduous trees to flourish here as representatives of a more moderate climate. West of the ridge deciduous trees are lacking. In this connection the height of the ridge is not so significant as to permit such an influence to be expected. /33 [37]

The Yablonovyy Ridge generally attains a height of only 1,200 to 1,300 meters. Its highest point, which is 1,670 meters high, is the Sarakan, which lies northeast of Chita and which as a golets projects alone from the otherwise very monotonous surface. The relative differences in heights between the valley depressions and the ridges are, however, only insignificant. The railroad crosses the mountain range west of Chita at the Yablonovaya station at /222/ a height of 1,050 to 1,070 meters. The pass here lies only 105 to 125 meters above the valley of the Khilok on the northwest but it is 305 to 325 meters above the bottom of the valley of the Ingoda with the decline to the Ingoda valley also being shorter and steeper. This asymmetrical structure with a steeper southeastern slope and a flat northwestern slope is a characteristic of almost all the mountain ranges in Transbaykal. Obruchev explains this contrast by the effects of the frozen earth by means of solifluction and heavier erosion. The ridges themselves also appear little in the picture of the landscape. From the valley of the Khilok the slope rises slowly to the watershed, which appears to be an almost level rampart. The ridge itself is a more or less plain which is covered with thick forests. Sunk in this plain are saddle-like hollows taken up by swamps. From

133 these hollows, as a rule, the rivers find their origin.

Southeast of the Yablonovyy Ridge and its western continuation, the already-mentioned Malkhanskiy Mountain Range, there extends the rather wide valley of the Chikoy and of the Ingoda, which is for
• 361 the most part settled by Russians. Here the Russian villages lie along the rivers like pearls on a string, while only a few kilometers away there stretch mountain forests which are still uninhabited. The best connections to these areas of settlement are from the railroad stations of Khilok and Mogzon.

The capital of the region, Chita, lies at the point where the Chita River flows into the Ingoda. After the construction of the railroad line, Chita quickly developed from a small town into a large city, which by 1939 already had 102,555 inhabitants, and at present its population probably already exceeds 150,000. The city is built on both sides of the river of the same name, and, lying 660 meters above sea level, the city rises like an amphitheater on two terraces of the land rising toward the north. It lies in a dry, healthy region. Chita constitutes the economic center of the entire region. It is especially known for its fur and leather processing. In addition, there are concentrated in the city important flour mills, saw mills, and
[BK] rather large repair shops for locomotives and railroad cars. A few
[217] kilometers west of the city lies the Chernovskiye Kopi, one of the most important coal districts in the area. Natural calcinated soda is extracted from the Doroninskoye Lake, which lies further up in the valley of the Ingoda.

133 From Chita the Ingoda breaks through on the southeast first the Cherskiy Mountain Range and then the Daur Mountain Range, and, then again bending in the direction of Lake Baykal, it finally follows the depression between the Daur Mountain Range and the Borshchovochnyy Mountain Range. In this depression the Ingoda unites with the Onon, which comes from the south. These two rivers then form the Shilka, the left source river of the Amur.

Approximately 60 kilometers below the point where the rivers flow together, and at the Nercha which flows into the Shilka from the north, is the city of Nerchinsk (28,000 inhabitants), and 85 kilometers further down lies Sretensk. Here the well-known Nerchinsk steppe island stretches on the left side of the Shilka, principally between the Shilka's two tributaries, the Nercha and Kuenga. /223/ /Sketch Map of Chita Oblast:/ The bulk of this steppe island consists of an almost ideal plain. The rest of the steppe island is gently

rolling with gentle rises toward the edges. In the ground lies a granite /33
foundation, over which is liparite and tuff, covered over by a thick layer of lacustrine deoposits, which point to the formation of the steppe basin from a former lake (Gladtsin, 69). Striking is the present day

69. Gladtsin, I.N., Geomorfologicheskii ocherk Zabaykaliya /Geomorphological Sketch of Transbaykal/, Trudy of the Geographical Institute of the Academy of Science, (Moscow, 1938), p. 174.

dryness, which forms a sharp contrast to the forest landscapes surrounding the steppe island. The low position (620 to 680 meters above sea level) as a depression between the contiguous mountain chains, may well be the reason for the special climatic conditions prevailing here. The fertile steppe still, in many cases designated as black earth, has lead to thick settlement, and, accordingly, the grass steppe only rarely now shows itself in its original dress. The levelness of the steppe is interrupted only by flat, mostly dry valleys with gentle slopes. /224/ In the deeper places there appear damp meadows, often swamps, and also not uncommonly even salt-pans. The slopes of the valleys sloping [137] to the north are overgrown with birches, poplars, meadows, and bushes, especially if the valleys have the character of a ravine. The transition to the forest landscapes occurs quickly. However, the souther slopes remain free of forests the longest and often appear in contiguous taiga as small forest steppe islands. Toward the Shilka the steppe plain breaks off with a steep, heavily valleyed, high step, which from the river often gives the impression of a mountain land. Next to the dairy and meat economy, the cultivation of grain stands in first place in the agriculture of the steppe island. The economic center is Nerchinsk [361] with its mill plants, brandy and alcohol distilleries. In terms of transportation Sretensk has a better location, for there the regular Amur shipping begins. West of Sretensk in Kokuy there is a shipyard.

The Transbaykal Railroad runs from Nerchinsk on further on the 49% left shore of the Shilka as far as Kuenga, and from here a branch railroad leads to Sretensk. The main railroad line, which from here on bears the name of Amur Railroad, leaves the Shilka Valley at Kuenga and circumscribes the Shilkinsk Mountain Range in a great arc. Here 316 in the north, lying in a side valley of the Kuenga and connected by a railroad line, are the coal mines of Bukachacha, which in their production stand in first place in Transbaykal, and farther to the east around the Mogocha Station lie extensive gold fields.

There are Russian settlers only on the outer edge of the region in the valley-plains of the main rivers; the entire, vast interior, on the other hand, is completely uninhabited. 133 [361]

The Manchurian Railroad branches off from the Karymskoye station between Chita and Nerchinsk. This railroad strikes the direct route to Vladivostok via Harbin. The last Soviet Russian station is Otpor, which /227/ lies opposite the Manchurian border. The railroad runs directly to the southeast and, in the process, crosses over all the mountain ridges almost at a right angle. After the Borshchovochnyy Mountain Range, there follows the Gazimur-Onon ridge, which reaches south of the Gazimur River to the Argun, and then the Erman, Nerchinskiy, Klichinskiy, and finally the Argun mountain ranges. All these mountain ridges run in the direction of Lake Baykal and run almost parallel to one another. The Gazimur-Onon ridge extends along the middle course of the Onon on the north side of the river until the break through of the river. The Gazimuro-Onon ends on the Argun between the Gazimur on the north and the Uryumkan on the south. It is never over 1,000 meters high. The Erman Mountain Range is already divided into two parts by the Tarey Basin which has no outlets. In the picture of the landscape of the entire region a gradual change is apparent from northwest to southeast, and also one from northeast to southwest. [496]

From northwest to southeast, i.e., in the direction of the Manchurian Railroad, the ridges gradually become lower, the differences in height decrease. The coniferous forests and likewise the swamps disappear. A striking wealth of birches enters, covering first the ridges, then only the northern slopes, and finally making way for the pure steppe. In the process salt-pans can already appear in the depths.

To the northeast, toward the Argun, all the mountain chains become higher, the Erman Mountain range reaching up to 1,400 meters, the Nerchinskiy Mountain Range reaching up to 1,300 meters, and the Argun Mountain Range reaching 900 to 1,000 meters. In the regions whose waters empty into the Argun, especially in drainage areas of the Gazimur, Uryukan, and Urov, the land has the character of a medium mountain range with peaked heights, deeply etched river valleys, and larger relative differences in height (300 to 500 meters). The undeveloped water network with great drops and numerous stony current rapids and waterfalls points to a recent elevation of this region, whose landscape can be designated as the Argun type. Toward the southwest the absolute height of the ridges decreases, the relative differences become smaller (100 to 150 meters on the mean), the valleys become wide, the rivers form great arcs and numerous meanderings.

2 [i.e. in the area between the valley of the Ingoda, Chikoy and the Onon -- Khalgol

133 Side erosion predominates. Gradually the ridges dissolve into hills. This landscape, designated by Presnyakov as the Gobi type, takes up the entire southern part of the Argun region. Here are the mountain steppes of the Onon and Argun. The Tarey Basin, which is also designated as Onon plain by Russian geographers, should be named as the third province. The Tarey forms a basin with no outlets and extends beyond the Mongolian border as far as the Kerulen. In the center lie the Tarey lakes, of which various ones cover a significant area. Thus the Barun Tarey covers 435 square kilometers, and the Sun Tarey covers 300 square kilometers. The countryside is for the most part level and is interrupted only by former river valleys and lake basins which are now dry. The /228/ remaining lakes lie 60 to 70 meters below the general surface, i.e. at an absolute height of 620 meters, but they are always still up to 5 meters deep. Despite the clear signs of recent drying up, water springs appear in many places on the surface. These springs form the centers of human life. The steppe character often gives way already here to wasteland forms.

The border between steppe and forest extends from Aksha on the middle Onon via Il'inskaya to the north to the watershed between Aga and Ingoda, then on the Ingoda to the east to the mouth of the Aga. From here the border circumscribes the Argun mountain country in an arc swinging to the south via the localities of Onon-Borzya, Akatuy, and Algachi. The border then turns again toward the northeast via Nerchinskiy-Zavod to the Argun.

Southeast of Chita there begins the Aginsk steppe, a true grass steppe, which takes up the river area of the Aga and the middle Onon. [231] Here lies the national oblast of the Buryat, who have made the area into an important livestock-breeding region. The Argun steppe takes up the entire southeast, where livestock breeding likewise dominates the economy. But here there are Russians, who pursue the breeding of cattle and sheep in large, specialized, state farms. In addition, there are also some state farms for horse breeding. To the north of [241] both steppes agriculture, with wheat as the main product, is diffused over a large area, and in a broad front it penetrates to the south. [361] Along the great rivers and also along the Argun the villages extend in a line through the middle of the steppe. The diffusion of agriculture [134] is favored by the circumstance that, despite the often very poor steppe vegetation, a horizon very rich in humus, a type of black earth, has developed under the pitted grass /Grasnarbe/.

000 The wealth of natural resources is, however, of far greater

The wealth of natural resources is, however, of far greater significance for the economic development of the future.* In this connection the non-ferrous metals in addition to iron ore should be mentioned primarily. The still insufficient connection with the transportation network, however, offers the greatest handicap to the exploitation of the natural resources. Apart from the railroad line which runs from Karymskoye to Otpor to Manchuria, there are only land routes available. Even the very important zinc-lead mines in Khapcheranga, in Mangut, and on the Sokhondo can be reached from the Ulstuy station, west of Karymskoye, only by a built-up land route which is around 320 kilometers long. And by the same route, too, the produce of the mines must be brought to the railroad line on trucks. Because of the smaller differences in height the land route along the Onon valley to the Olovyannaya station has recently been used in perference to the above-mentioned route, which crosses more mountain ridges. Also the regions in the angle between the Manchurian side branch of the railroad and the Argun can only be reached by built-up land routes and truck transportation. Borzya on the railroad line appears to be developing here into the traffic center. Toward the east a narrow-gauge railroad leads to the /229/ non-ferrous metal mines of the Argun district, and toward the southwest a similar line leads to Choybalsan in the Mongolian People's Republic. The city itself, located in the middle of the Argun steppe which is rich in livestock, has a large meat plant. In addition to Borzya there should also be mentioned on the Manchurian branch of the railroad the city of Olovyannaya, which has already been mentioned several times and which is known for its tin works. The bulk of the other localities have already been listed in the discussion of the natural resources.

*[i.e. of the Aginsk steppe -- Analyst]

The Vitim Plateau and the Northern Forested Mountain Provinces

To the north of the Yablonovyy Ridge, spreading east of the Ikatskiy Mountain Range, is the Vitim Plateau, which is adjoined on the north by a series of mountain ridges. The entire region represents a forest mountain range landscape, which climatically is very raw and which makes it very difficult for man to make his way here. Agriculture disappears almost entirely here or is limited to small islands which are scattered sporadically. Only Tungus hunters and reindeer breeders in small numbers traverse the thick taiga and pass a laborious life. However, these wastelands conceal extraordinarily rich gold streams, which are diffused especially in the central part of the Vitim Plateau and which have brought into being active gold

scarcely to be differentiated from its southern opposite. The valley of the Upper Angara, which opens onto Lake Baykal, has a certain moderation in climate, and accordingly there exist in this valley some agricultural islands occupied by Russians. Otherwise the entire region--apart from hunters and some Reindeer Tungus--is as good as uninhabited. This applies also to the mountain ridges lying farther north, such as that of the Upper Angara, its eastern continuation, /234/ the Delyun-Uramskiy Mountain Range, and the Mama Highland. Only far on the other side of this uninhabited zone, in the southern part of the Patom Plateau on the lower Vitim, are settlements worthy of mention encountered: such as Bodaybo, Leninsk, and Artemovsk, which the wealth of gold there, too, has caused to come into being. But all of these areas already lie outside of Transbaykal and can therefore be mentioned only peripherally. They belong to the sphere of influence of the actual Lena and tend economically toward Irkutsk and Yakutsk.

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The Olekma Mountain Country and Olekminsk Stanovik

With this region we encounter vast areas, which are almost uninhabited in most of the northern part and which are still very little explored. Thus even the relationship of the large mountain chains can still not be clearly laid down. Best known still is the most southerly part, which extends as a narrow strip along the Amur and whose waters also empty into the Amur. Thanks to the Amur Railroad, which runs almost parallel to the river at a distance of 50 to 75 kilometers, these sections are also more strongly incorporated in the economy and brought nearer to civilization.

The eastern border of the province is formed by the Olekma, its right tributary the Nyukzha, and the Amur tributary, the Oldoy. The western boundary is clearly marked only in the north by the Vitim; in the south, on the other hand, between the southeastern bend of the Vitim and the Amur, the border is undetermined since the Transbaykal mountain ranges continue here into the Olekma region without interruption.

The Yablonovyy Ridge pushes between the Vitim and the upper course of the Nercha into the area as far as the middle course of the Olekma directed toward the north. The Yablonovyy here stretches on the northern side of the upper course of the Olekma and divides its tributaries from those of the Kalakan and the Kalar, which empty into

133 Gold streams are mined on the Ketemakhta, a left tributary of the
[316] upper Kalar. Connection with the outside world is provided by
[487] mountain paths, which lead toward the south to the Mogocha Station on the Amur Railroad.

The Olekminsk Stanovik comprises the entire area around the upper course of the Olekma and at the same time forms the watershed for the Amur. The entire region is described as a forest-covered plateau, whose general height lies between 950 and 1,000 meters. The river valleys are mostly deeply etched, and lie 80 to 200 meters below the surface of the plateau. The ridge between the Olekma and its right tributary the Tungir bears the name of Dzhaliro-Tungirskiy Mountain Range; otherwise individual designations are not known. The watershed for the Amur forms a flat ridge, which generally is only 800 to 900 meters high. Toward the south, toward the Amur, this ridge gives way very quickly to hilly country, which is interrupted by the broad valley areas of the numerous waters flowing into the Amur. The most important of these is the Amazar, whose valley
[137] is also used for a stretch by the Amur Railroad. In contrast to the thick larch forests, which cover the bulk of the Stanovik, the vegetation on the slopes inclined toward the Amur includes numerous deciduous
316 trees and thus shows already a more friendly picture. Gold is the most valuable product of the regions. The river valleys between the upper Tungir and the Amazar are especially rich in gold. These valleys are very well opened up because of their nearness to the railroad. The center of gold mining is the city of Mogocha, which has approximately 30,000 inhabitants. It lies on the railroad on the left side of the Amazar. The alluvial sands of the little rivers flowing into the Amur also have gold and, therefore, from early times have
• [361] enticed many men who then remained in the land. Accordingly, the entire strip of land between the railroad and the Amur is relatively thickly settled. Worthy of mention here is the valley of the Urusha, which is crossed /237/ by the railroad at the station of the same name. In the vicinity of Urusha brown coal deposits have been determined, and, west of Urusha in the vicinity of the Yerofei Pavlovich station (which has more than 20,000 inhabitants), there are also usable tin deposits.

The Oldoy-Zeya Mountain Country

133 East of the area around the upper course of the Olekma, the

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Stanovoy in two places, reports, it is characteristic of the entire structure of the Stanovoy that the plateau in the middle slopes both toward the north and also toward the south in step-shaped breaks, which stretch in a latitudinal direction. Also in terms of landscape there is a difference between the two outer zones. In the north the valleys are mostly filled with forest, and only the deepest places are taken up by moss hills and moss swamps, while the heights appear bare of forest and are covered with rock ruins and boulders or consist of smooth, steeply towering, contiguous bare rock. In the south, on the other hand, /239/ all the heights have thick forests, and only the valley areas are without forest, as a consequence of the greater swampiness. In contrast to the rest of the Stanovoy, the area around the source of the Zeya is also mountainous in the south.

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South of the Stanovoy stretches the upper Zeya's broad graben depression which is filled with forests and swamps. Opposite it and coming from the west is the valley of the Gilyuy which is significantly narrower. Both are among the richest gold fields in the Far Eastern regions and are, therefore, better known. The valley floors and even the gentle plateau slopes are mostly covered with a thick layer of moss drenched with dampness, while thick larch taiga grows on the better-drained slopes and elevated places. Deciduous trees occur here only very rarely. As a consequence of the predominant permanently frozen earth, there are often moss hills containing ice cores. These hills are often several meters high, and, if they appear in large numbers, they give rise to a landscape similar to a hill tundra. The crossing of such moss swamps is made difficult by the fact that the frozen earth has gaps, probably because of warm springs, and, accordingly in such places one can sink to unfathomable depths. Where gold mining is pursued, the taiga as a rule is destroyed beforehand by forest fires set off intentionally. The taiga thus gives way to a horrible, plundered landscape, in which there are numerous, deserted huts, which, overgrown with bushes, are falling into ruin and increase still more the despair of the picture. The region does not have larger localities. There are some villages, such as Potekhino and Bryatan in the center of the depression, in which there are larger supply warehouses from which the widely scattered settlements of gold washers are supplied. The extraction of gold, now run by the state, brings rich yields and has made the depression into one of the most important gold areas in the Far East. The gold streams lie along the Zeya and the Gilyuy and their tributaries. The very great swampiness and the existence of

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133 northern edge it represents.

The Oldoy Highland is the smallest part of the region as a whole, and it comprises the area between the Yankan Mountain Range and the Amur. Already from the region around the source of the Oldoy toward the south the landscape flattens out and dissolves into individual ridges, mountains, and valley areas, giving the overall impression of a mountainous and hilly landscape. Toward the southeast, between the Urkan and the Amur, the broad hill ridges gradually disappear altogether, and the landscape here flows into the so-called Amur-Zeya plateau, which already belongs to the greater landscape of the Zeya-Bureya plain area.

491 496 The Oldoy Highland is traversed in the north by the Amur Railroad, from which a railroad line to the Amur harbor of Dzhalinda branches off in Skovorodino (more than 20,000 inhabitants), the seat of a railroad office. Thus, in terms of transportation, this region is quite well opened up. This is also true of the most heavily populated parts within the overall region. The alluvial sands of the rivers to the north of the Amur Railroad, especially the valleys of the upper Oldoy, and of the Great and Lesser Urkan, are rich in gold. The built-up highway which is mentioned above and which can be used throughout the year, leads from the station of Never (around 10,000 inhabitants). This highway crosses the Tukuringra Mountain Range and the Stanovoy in its western part and goes via the Aldan gold fields to Yakutsk. It reaches Tyndinsk in the area around the upper course of the Gilyuy. This important highway has recently been supplemented by a railroad line from Skovorodino to Tyndinsk, where there is a spur to the great Baykal-Amur Railroad (BAM). With this a direct cross-connection between the Amur shipping and the BAM is supposed to be created. The new railroad line, in addition, opens up new areas for settlement, just as the construction of the Amur Railroad has become a pacemaker for heavier settlement by an agricultural population. Also in the less swampy valley areas between the railroad and the Amur River agriculture is 361 pursued relatively actively. Accordingly, a lively food industry and also machine building shops and repair shops have been able to develop in Skovorodino, which has already been named as the center of the Oldoy Highland. Brown coal, which is mined in the vicinity, is used as the raw material for energy. To the north of the city tin supplies [509] have been determined. An airfield in the vicinity connects Skovorodino to the great airline running from Moscow to Khabarovsk to Vladivostok.

361 Only in the southeast in the triangle between the Amur and the lower Zeya is there an agricultural settlement covering an area of any size. In the rest of this region a zone of settlements with many gaps accompanies the Amur and the railroad.

496 The Amur Railroad runs approximately along the middle of the plateau and uses the watershed exactly, since along the watershed there was, for understandable reasons, the best and the easiest opportunity for marking off. A branch railroad, 38 kilometers long, leads from Ushumun station to Chernyayevo on the Amur, in the center of a region with great prospects for the future, for here only a few years ago hard coal deposits were determined. These deposits stretch along the left side of the Amur between its tributaries, the Urinda and Magdagachi, i.e., approximately around the locality of Chernyayevo mentioned above. The coal is of Jurassic age and lies in individual anticlines, which stretch toward the northeast. Although, judging from individual tests, the ash content of the coal is supposed to be great, the deposits have a prominent significance because they lie in a region /243/ /Sketch Map of the Amur Oblast:/ which formerly had to be supplied with coal from a great distance. In some places the coal-bearing layers are broken through by granite laccolite and porphyry effusions, and thus the coal here has been transformed into valuable semi-anthracite and full anthracite. Nothing is known of the total supply in the deposit designated by the Russians as the "Upper Amur Coal Basin." There are numerous outcroppings on the Amur and in the individual river valleys. Very recently the mining of the coal deposits in the vicinity of Madgagachi has begun.

361 The principal locality in the northwestern part of the plateau is Magdagachi (approximately 10,000 inhabitants); the principal locality in the southeastern part is Shumanovskaya (approximately 25,000 inhabitants). Both of these towns lie on the Amur Railroad.

487 The Tygda station between Madgadachi and Ushumun has greater significance in terms of transportation. A land route leads from Tygda via Ovsyanka, which lies at the point where the Zeya and the Urkan flow together, to the Tukuringra break-through of the Zeya. This is the shortest land route connection from the Amur Railroad to the gold fields on the upper Zeya and the Gilyuy.

133 /244/ East of the lower Zeya begins the Zeya-Bureya Lowland, which stretches toward the east along the Amur over a broad area extending beyond the lower course of the Bureya. The end of this low plain is prepared by the high embankment of the Bureya Mountain

Region/. Pochvovedniie, 1911.

133 The northern part of the Zeya-Bureya plain lies generally below 500 meters above sea level and declines toward the lower Zeya and the Amur, /247/ /Sketch Map:/ /248/ where the greatest part lies at less than 200 meters above sea level. At Blagoveshchensk the Amur has a height of 120 meters. In individual places the substratum comes out from the flatly deposited Tertiary layers in the form of individual rocks, which consist of granite, Jurassic conglomerates and Jurassic sandstone, or also of porphyry.

The great dampness of the Zeya-Bureya plain, which arises from the excessive summer rainfall, leads in the unlevel regions to hanging landslips and solifluction phenomena of manifold types, which cause great difficulties in the construction of roads and installation of railroads, especially when--as, for example, in the country of mountain spurs--permafrost appears. The peasant fights constantly against threatening swampiness by draining his land. Despite these [311] difficulties, the area under cultivation is increasing continually. The swamps, which as a rule are covered with clusters of grass, are turned into hay fields by fires set off every year, and these hay fields in turn are then turned into cultivated land.

•361 Settlement is very thick, and in the valley area of the Zeya, Selemdzha, and Bureya it penetrates farther and farther into the interior. In the plains one can often see from one village to the next one. The settlements differ in no respect from those in the Russian homeland. And when in mid-summer sunflower fields glow between the yellow gold of wheat fields, one might feel himself transported [241] to southern Russia. The cultivation of soy beans and perilla, which here lays claim to a significant percentage of the area under cultivation, [496] appears foreign, however. The railroad crosses the Zeya at Svobodnyy (10,000 inhabitants), where an active wood industry has developed. A branch railroad, which is 108 kilometers long, leads from Kuybyshevka with its more than 10,000 inhabitants to Blagoveshchensk (58,700 inhabitants), the capital of the region. The city extends along the shore of the Amur for a distance of almost 8 kilometers, toward the mouth of the Zeya. The Zeya here is 2 kilometers wide and exceeds even the Amur into which it flows. The city is the center of the entire agricultural area and has numerous flour and oil mills. In addition, the processing of lumber also plays a large role. The lumber is floated here on the Zeya and the Amur. Opposite Blagoveshchensk,

on the Manchurian side, lies the city of Heino (Sakhalyan), from whence there is a spur to the railroad network of Manchuria. The area around the lower course of the Bureya has the same character in terms of landscape as do the plains on the Zeya. The nearness of the highland permits the basic rock to come out more often here. The population is likewise dense and in the valley of the Bureya penetrates farther toward the north into the highland. The center of the region is the little city of Bureya, which lies at the point where the railroad crosses the Bureya River. A railroad line, which is 43 kilometers long, branches off from here to Raychikhinsk, the center of the largest brown coal deposit in the Amur country. Zavitaya, from which a new railroad line has been built to Poyarkovo on the Amur, /249/ has acquired a growing importance during the most recent period.

The brown coal fields lie between the railroad and the Amur and stretch from the Bureya in the east to the Zavitaya in the west, covering an area of 600 square kilometers. Raychikhinsk and Kivdinskiy are the centers of the coal mining. The transporting of the coal is done for the most part by railroad to the Bureya station, where there are opportunities to transfer the goods to river shipping.

The northern part of the Zeya-Bureya plain is drained primarily by the Selemdzha. The population here decreases rapidly toward the north, and settlement is limited to the valley areas of the rivers. On the Zeya, settlement reaches to the town of the same name at the foot of the Tukuringra Mountain Range; and on the Selemdzha, settlement ends approximately at Norsk. Both rivers are regularly traveled by steamships as far as the localities named. With the new construction of the BAM, which goes from the middle Zeya and runs through the area toward the east and crosses over the Selemdzha at the locality of Norsk mentioned above, new prospects have opened up for the further development of these regions, which are favorable for settlement but which in the past were too remote.

The Bureya Mountain Country

The Bureya Highland has a central position in the Amur country. It forces the Amur to make its large southern bend; and, in the south where it joins the Little Khingan, it makes a path to the east free for the Amur only in a narrow break-through valley. In the same place the Bureya Highland shoves itself like a wedge into the great depressions running along the Amur and separates the Zeya-Bureya plain in the

Mountain Range to the upper course of the Tyrma and then follows this river to the point where it empties into the Bureya. The railroad had already been completed as far as Ust'-Tyrma in 1942. Since then the construction of this railroad, which now runs parallel to the course of the Bureya, has been continued via Chekunda to Umal'ta. With this an outlet has been created for Bureya coal toward the south to the Amur Railroad, but the waterway of the Bureya is also used to transport the coal away. The expansion of this waterway is being worked on. In addition, there is the fact that the Baykal-Amur Railroad also crosses the same region. This railroad leaves the Selemdzha at Norsk, crosses the Turana Ridge and reaches the middle course of the Bureya at Chekunda, to continue further over the Bureya Mountain Range to Komsomol'sk.

The construction of both these railroads in the sphere of the Bureya Mountain Range has above all an industrial significance. Next to coal, wood is the most important item for transport which this region can supply. In the traffic going the other way, the bringing in of food is probably the main task of the railroads. The Bureya also plays a certain role in this connection; for, according to various reports, continuous loads of grain go up the river during the period when it is navigable. The supplying of the new Bureya coal region must be assured from outside because the Bureya valley itself is very unfavorable for agricultural settlement. Everywhere here the Bureya has the character of a mountain river. Its valley between Ust'-Umal'ta and Ust'-Niman is up to 3 kilometers wide, but the river, which here is very wild, regularly floods a part of this country and causes extensive swampiness. From Ust'-Niman to Chekunda the right bank is steep and rocky; the left bank is, to be sure, level, but it is taken up by swamps which are difficult to travel. Below Chekunda as far as the settlement of Paykan the valley narrows, and on both sides the rocky mountains come right down to the shore. Only shortly before leaving the mountain ranges does the valley meadow widen into an area favorable for settlement. Thus the prospects for agrarian settlement in the area of the Bureya valley are not very good, and it will require long years of difficult cultivation work before the new coal mining region will be able to supply its own food.

If we survey the entire Bureya Highland, then, it can be determined that, apart from the spottily occupied gold regions in the north and apart from the Bureya and Tyrma valleys which are now filling up with people in a limited area, the other regions are as good as

361 uninhabited except for in the southern part. Heavier settlement in terms of area covered can be found only in the southern part of the highland, where a contiguous belt of settlements meets us both along the Amur River. While the belt of settlements along the Amur River is certainly purely agricultural, industrial activity is to be encountered along the railroad in the area of the Bureya Mountain Range. In Bira 316 hard coal is mined /253/, iron ore lies west of Bira in Kimkan, and farther on in the vicinity of the railroad there are known to be supplies of magnesite, manganese, and fluorspar. Gold is also there and is extracted from the gold streams of the Sutar valley. This sourthern part of the Bureya Highland belongs to the Jewish Autonomous Oblast. It will be discussed in context in the following chapter.

/Sketch Map of the Jewish Autonomous Oblast/

The Amur Plain

B3 This region extends from the eastern slopes of the Bureya Mountain Range to the shore of the lower Amur, and it forms a vast lowland covered with meadow steppe. This lowland is scarely inferior to the Zeya-Bureya plain in the luxuriant growth of grass. The mean height of the plain is 45 meters. On the eastern side of the Bureya Mountain Range there run parallel to this range some mountain ridges, which go beyond the 1,000 meter mark only in the rarest of cases, such as in the Badzhal'skiy Mountain Range.

The Amur plain is regarded as a continuation of the Ussuri-Khanka depression and represents a graben zone, which is set between the Bureya Mountain Range on the west and the Sikhote-Alin' on the east.

The plain itself is divided into the flood area, which can be from a few kilometers up to 20 kilometers wide, and the real plain, which begins with a step. Only the edge of the plain is cut up by the rivers; otherwise the plain is for the most part completely flat and toward the mountains goes gradually over into a hilly landscape. The country on the right bank of the Amur below the mouth of the Ussuri is more varied in form /254/ because of the spurs of the Sikhote-Alin'. This area is generally higher, and its landscape is gently rolling to hilly.

Even though the external picture of this area recalls that of the Zeya-Bureya plain, the Amur plain, nevertheless, differs because of its greater swampiness, which goes back in the first place to the damper

kilometers, and its population numbers /255/ 108,400 (1939), of which approximately half are Jews. This region is drained by the Bira, whose upper valley is also used by the railroad, and by the Bidzhan. Both of these rivers run through broad valley meadows, which are covered with cultivated fields. From the two rivers the region has also received the name of "Birobidzhan," which is often used. The capital of this oblast also bears the name of "Birobidzhan." Lying on the railroad at the point where the railroad leaves the Bira, this city has around 30,000 inhabitants (1939). Worthy of note is a large clothing and knitted goods factory, which is the sole large installation of this type in the entire Far Eastern region. The western part of the oblast, which has already been mentioned in the discussion of the Bureya Highland, is rich in the most varied natural resources, of which the coal deposits of Bira and the iron ore of Kimkan are supposed to become the basis for the establishment of a local heavy industry. The Jews are in all occupations, even in agriculture. In the large section of the west the cultivation of wheat and soybeans predominates; in the smaller eastern section, which is influenced by the nearness of the large city of Khabarovsk, the cultivation of potatoes and vegetables and the breeding of dairy livestock predominate.

Khabarovsk, which lies below the mouth of the Ussuri on the right side of the Amur, is the administrative and economic center of the entire Amur region. Its favorable location, in terms of transportation, in the center of a mighty river system and at the end of the Amur and Ussuri Railroad has permitted the city to grow very quickly into a large city. Having a population of only 52,045 in 1926, Khabarovsk almost quadrupled its population by 1929 when it had 199,364 inhabitants, and today its population has probably exceeded 300,000. This rapid growth in population goes back above all to the expansion and construction of industrial plants. In the foreground is machine construction, especially the construction of machinery for agricultural purposes, the processing of metal and of wood, and a food industry which is brought together in large plants. As the center of the Amur shipping, Khabarovsk has a shipyard in which coastal vessels are also built. A modern cracking installation has been added to the older oil refinery in order to process the oil from Sakhalin. Khabarovsk is the center of all air traffic in the Far East. Several airports are available, and, in addition, there are plants for the construction of airplanes and automobiles. In the wide surroundings of the city there has developed an agricultural economy which is typical of areas near cities and in which the cultivation of vegetables and the breeding of dairy livestock predominate.

Bureya Mountain Range the deciduous trees disappear as the height increases, and on the mountain range itself and in the Bureya Highland Siberian taiga with Okhotsk strains penetrates generally far toward the south. In the Amur region itself the moderating influence from the south ends with the closed off plain, the climatic conditions become more unfavorable, cooler, and damper; the Sea of Okhotsk dominates here. The meadow steppes change into treeless moss swamps; coniferous forests of an Okhotsk stamp cover the hills, on which here and there the first appearances of high moor formations can be determined. These are signs, which are typical of the northern coastal mountain landscapes. This region already is reckoned as being such a landscape, and it is for this reason that this area along with the drainage area of the Uda will be treated as an independent region.

In the Khabarovsk region the Amur plain is settled over a large area. Wheat, barley, and rye are cultivated here still with good harvests, but toward the north potatoes and vegetables take up an increasing percentage of the land cultivated, since the yield of the grain harvests becomes inferior as a consequence of the dampness of the ground. With sufficient drainage, wide areas could still be won here for the cultivation of grain. Instead the excellent natural meadows serve for breeding of livestock. Toward the north the density of the population decreases rapidly, and approximately from the Mukhen, a right tributary, on, settlement is limited to the river banks on which small villages or individual settlements of Russians or natives are to be encountered at a distance of 10 to 20 kilometers from one another. The settlements for the most part lie on the right bank of the Amur, which is the higher bank. The /258/ left side with its unpredictable high waters is too dangerous for man. In favorable spots larger localities have also developed, such as Troitskoye with its approximately 4,000 inhabitants. In general the settlements are small. The Russian villages can be recognized by their wooden houses. The Gilyak, Goldi, and also here and there Chinese and Koreans, on the other hand, in many cases still occupy mud huts, which are built on the pattern of the Chinese fang-tze. Along with the population, agriculture decreases toward the north. Fishing comes more and more into the foreground, until it becomes the principal occupation on the lower Amur. Here again settlements pile up. According to the state organization of the catching of fish, these settlements are specialized for this trade, and they have heavy immigration. Thus the population grows quickly here, but it is dependent on imports for supplies. All the other areas which

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has re- [161] ceived its name. By 1939 it already numbered 70,000 inhabitants, [34] and today its population is estimated to be more than 150,000. The city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [37] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire area around the lower Amur. Already several years ago the city was 361 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a

lengthening of the BAM via the Sikhote-Alin' to Sovyetskaya Gavan', which is the best natural harbor on the coast of the Gulf of Tatar. The railroad for a part of the way uses the middle course of the Khungari, a right tributary of the Amur, in whose basin a large Tertiary brown coal deposit was discovered in 1932. This deposit is supposed to be used to run the railroad. At present the railroad to Sovyetskaya Gavan' already plays an important role in the treating of lumber from the Sikhote-Alin', which is processed for export in a large lumber mill in the harbor city.

Nikolayevsk with its approximately 30,000 inhabitants is the economic center in the region around the mouth of the Amur. It owes its importance above all to the wealth of fish in the neighboring parts of the sea and in the Amur. Accordingly, it has been able to develop into one of the largest centers of the fish-processing industry. The city cannot develop very well as a sea harbor because of the harsh climatic conditions--the ice-free period lasts only around 160 days--and the unfavorability of the mouth. The mouth of the river is closed off by a sand bar of great width, which enables only those ships to pass which have a draught of up to 3.50 meters. In addition, there is the fact that the "Amur-Liman" itself is very flat, has many shallows, and thus permits sea-going ships to travel on it only in a few natural canals. Thus only smaller coastal vessels can get into the Amur, while larger sea-going ships must be unloaded on the open sea and their goods transferred to river vessels. For many years they have been in the process of creating a suitable waterway in the Amur, but the difficulties appear to be too great. Above all the natural deposit of bar sand again and again destroys the work of man.

The Sikhote-Alin'

The Sikhote-Alin' with its mountains fills the entire area from the mouth of the Amur on the north to the steep break at the Bay of Peter the Great. In contrast to this vast expanse, the narrow depression which extends at the western foot of the Sikhote-Alin' and which only in the south has extensive plains, appears to be of subordinate importance, particularly, too, because spurs of the Sikhote-Alin' not uncommonly penetrate almost to the Ussuri, and individual mountains of the Sikhote-Alin's border steps which traverse the entire land, appear even in the plain. Nevertheless, the smaller depression has the greater significance, for in it sits the bulk of the population, and in it

other hand, an elevation still appears to hold sway at present. Many rivers emptying into the sea show delta formations. 133

As a consequence of the southern current running along the coast, numerous narrow tongues of land separating small bays from the sea have formed. All these tongues of land point toward the south. The deltas mostly lie left of the river courses, which, therefore, show a wandering to the right and which also dig under the shore on the right side. The sea current is weaker and irregular on the southern coast, which is heavily broken up; thus tongues of land here can run in all directions.

The most important bay on the east coast is Ol'ga Bay. It was discovered in 1787 by La Perouse and forms one of the best natural harbors on the coast. Lying off the bay are the small, rocky Chikhachev Islands. The bay itself has a diameter of 3 kilometers and is on the mean 25 meters deep. Once it was at least three times as large and reached much more deeply into the land toward the west. Today the valley areas of the rivers emptying into the bay become swampy. When there is a strong east wind, a backward flow can even be determined. The old marine abrasion terraces are very well preserved on the mountains at a height of 25, 30, and 120 meters. The low mountains surrounding the bay consist of granite, quartz porphyry, and sedimentary rock and contain above all iron /264/ in addition to lead [135] ore containing copper and silver. This iron is magnetite with an iron content of 50 percent; the iron is being mined here. The harbor locality of Ol'ga has several thousand inhabitants. In the hinterland of the bay [261]. Russian peasant settlers have made their appearance.

The Tetyuke Bay has a greater economic importance. Here, 316 35 kilometers from the coast, is the most important zinc-lead-silver 504 ore in the Far East. A narrow-gauge railroad connects the mining installations and the preparatory installations with the harbor, which has gotten modern loading equipment very recently. The harbor locality has several thousand inhabitants. Here, too, there are agricultural settlements in the hinterland.

Between the two above-mentioned bays is a third bay, the 133 Vladimir Bay. It is surrounded on all sides by granite mountains which are up to 225 meters high. The bay has a depth of up to 12 meters. Fresh water lakes and swamps enable us to recognize the former larger expanse of the bay. Two projecting rocky peninsulas enclose the bay. Vladimir is known for its installations for the extraction of iodine from seaweed.

133 Of the more favorable bays on the northern part of the Sikhote-
361 Alin' coast, only the bay is still to be mentioned on which the already-mentioned harbor of Sovyetskaya Gavan' lies. The natural bay, which is suitable as a landing place, has a vast, flat hinterland, which also has a rather thick agrarian population. Since the completion of the railroad constructed from Komsomol'sk to here, the locality has de-
[504] veloped quickly into a city with more than 20,000 inhabitants. It has
[396] also received a modern harbor. The processing of wood stands at the center of the economy, but, in addition, ship construction is also pursued. The harbor has a floating dock for ships with up to 5,000 gross registered tons.

361 For the rest there are in addition numerous small Russian fishing localities on the coast. These mostly lie at the mouths of rivers, and
[505] now, through the bringing together and the building up of the fishing industry, these localities are also experiencing a certain upsurge. The supplying of the localities is done by coastal steamer. Only where wider bays and more extensive valley areas have given the opportunity, have Russian settlers also made their appearance here. These settlers have in places already penetrated 50 kilometers and more into the land.

133 The real, vast mountain massif of the Sikhote-Alin' is very
361 sparsely populated; indeed, large sections are uninhabited. In the pathless interior on the upper course of the Bikin and of the Khor, on the Mukhen, Anyu, and upper Khungari, the Tungus Orochi and Olcha are still to be encountered. They wander as nomads with their pointed tents and live exclusively from hunting and fishing. But their number becomes ever smaller. Otherwise only a few Russians and Chinese traverse the wilderness of the lonely valleys and mountains while hunting for fur-bearing animals and the antlers of Isiubr stag. The opportunities for agriculture and the breeding of livestock are slight. Only the broad bottom valleys of the main rivers are suitable for this; here, from the valley of the Ussuri on, Russian settlers are in the process of a slow penetration into the interior, especially on the Khor, Bikin, and Iman, in whose valleys /265/ they can already be found far in among the mountains. It cannot be said how much the collectivization of agriculture has contributed here to a further opening-up of the land or whether a perseverence on the land already won is the consequence of these measure.

137 Greater prospects for human activity are offered by the natural resources. Despite the careless cutting down of trees in the border

regions, the Sikhote-Alin' can still, as always, be designated as rich in forests. Planned exploitation of these forests has still not been begun at all. Of still greater significance for the future are the vastly rich resources of the ground. The southeastern part of the Sikhote-Alin' appears to be a true mine for the latter. However, a large part of these supplies has still not been once sufficiently investigated. The prospects for development along mining and industrial lines are always completely favorable, only an opening up in terms of transportation must pave the paths to the sources.

The extreme southern part of the Sikhote-Alin' is generally relatively thickly populated, and it is also better opened up from Vladivostok on. It already belongs more to the cultivated zone, and economically, too, it is so closely connected with the cultivated zone that it will be treated in connection with the Ussuri-Khanka depression.

The Ussuri-Khanka Depression

The western foot of the Sikhote-Alin' is, for its entire length, accompanied by an extensive depression, which stretches from the Gulf of Peter the Great to the mouth of the Amur, thus covering more than 1,300 kilometers. The Ussuri-Khanka depression forms the larger, southern part of this long depression and has a total length of 700 kilometers from the southern end to the mouth of the Ussuri. As compared with the Sikhote-Alin', this depression represents the sunken part of the land step and is accompanied on the west by the step, again elevated, of the east Manchurian mountain range. In the Tertiary period, the entire depression, as Ivanov (83) assumes, was flooded by the sea, and

83. Ivanov, D.V. The Sikhote-Alin' Ridge /in Russian/. Petersurg, 1896.

thus the Sikhote-Alin' projected from the sea as a long, narrow island. Proof of this view has been attained up to now only for the southern part of the depression.

The bulk of the depression belongs to the drainage area of the Ussuri. A flat watershed, which is scarcely perceptible in the countryside and which has an absolute height of only 190 meters above sea level, separates this section of the depression from that section of the depression whose waters drain off toward the south, i.e., the river

the river. However, in contrast to the western side, the eastern side is narrow, and only somewhat wider at the mouths of the tributaries. On the other hand, the depression is also completely lacking in places, i.e., where the spurs of the Sikhote-Alin' go right down to the river. However, not only do these spurs interrupt the depressions, but they also often interrupt the hills and ridges which emerge from the flat alluvial plain and which are drier and as a rule have cultivated fields, villages, and forests. Therefore, there are only a few settlements along the river in the areas threatened by water. The real cultivated zone, which begins in the north already at Khabarovsk, always extends, for this reason, at some distance from the river bank along the country lying higher. The Ussuri Railroad also follows the higher land. Here the forest landscape and the forest steppe landscape have been cleared over an area 100 kilometers wide and have had to make way for the cultivated land, which extends in a considerable width especially in the regions around the lower courses of the Khor, Bikin, and Iman. The most important localities in these three depressions are Kondratyevka on the Khor, Bikin, and Iman, all three of which lie at the point where the above-mentioned rivers are crossed by the railroad. In the south the Ussuri depression flows together with the agriculturally important Khanka depression.

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Khanka Lake lies 69 meters high and is 23,000 square kilometers in area, with its greatest length being 80 kilometers and its width being 40 to 85 kilometers. A narrow, sandy tongue of land in the north separates it from the so-called Little Khanka Lake. /267/ /Sketch Map//268/ South of this tongue of land the border crosses the lake, giving approximately a fourth of the lake to Manchuria. In the east the Sungacha forms the border. Khanka Lake is generally extremely flat, its greatest depth being 10 meters. It is surrounded by vast swamps and moors covered with reeds, and it is very much in the process of being filled up with sand. The western shores are formed from Tertiary loam and are, therefore, hilly and irregularly formed with numerous bays and peninsulas. Here to the west of the lake lie the regions, which, of all the areas near the lake, are most favorable for agriculture. The flat moors and swamps which otherwise surround the lake extend to the north for 10 kilometers, and toward the east and south they even extend 30 kilometers from the lake, thus indicating the one-time size and position of the lake. Where the swamps surrounding the lake are becoming somewhat drier, they are turning into meadows with high grass, thus giving a similar appearance to that of the Amur prairies of the Zeya and Bureya.

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the Zeya and Bureya. Also the soil both in the Ussuri depression and also in the Khanka lowland is similar to that of the Amur prairies. Here, too, it is not black earth, as is still often reported; rather there is in the main muddy moor soil in the vicinity of the lake; this in turn is surrounded by a broad zone of semi-marshy meadow soil, and following then is weak podsol earth. The last two zones are cultivated almost everywhere, and the soil there can in every respect compare with black earth in terms of its yield. The zone of settlements, therefore, begins to the east and southeast of Khanka Lake but at some distance from the lake. If here, as in the Ussuri region, agriculture has to struggle with difficulties, the reason for this does not lie in the soil but rather in the climatic conditions, above all in the heavy summer rainfall. The winter is very cold and brings only a very thin covering of snow, and thus the ground freezes to great depths. Berg (27) states that at Voroshilov the ground freezes to a depth of up

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27. Berg, L. S., Landshaftno-geograficheskie Zony SSSR /The Landscape-Geographical Zones of the USSR/, (Moscow, 1931), Part I, 1. 372.

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to 1.8 meters and at Grodekovo the frost even penetrates to depths of up to 2.4 meters. The planting of winter grain is, therefore, not advisable, nor is the planting of clover and lucerne advisable. The cultivation of winter crops is, therefore, always a risk. Further toward the south, in the Suyfun depression, winter rye is cultivated without danger. As a consequence of the deep penetration of the frost, the ground thaws out only late in the year. There is, however, no permafrost in the entire Ussuri region. The planting of summer wheat begins in mid-April to May, and the harvest begins in mid-August. Oats are sowed two weeks later, but are harvested at the same time as the wheat. The sowing of millet is done still later; the harvest, however, occurs only in the middle of September. The shortness of the time between the sowing and the maturity indicates the generally favorable conditions for the flourishing of the vegetation. The European types of grain suffer now under the dryness and under the strong winds during the sowing period, while during the summer they suffer from the great dampness, which makes fructification in the blooming period uncertain when it rains and which also endangers the maturing at harvest. All the better do the native cultivated plants /269/ flourish. With appropriate methods of cultivation European

The breeding of livestock is pursued in the entire area: cows, horses, and pigs are kept in the main. Ukrainians, Koreans, and Chinese use the ox also as a work animal in the field; the Great Russians, however, do not. Everywhere there is the slender, black Chinese pig, which is of little value. Modern, planned breeding of livestock became possible only after the introduction of valuable breeds by the Soviets in the kolkhoz and sovkhoz.

Under Soviet rule greater improvement work has been carried out in the region of the Ussuri and of Khanka Lake, and further draining is planned. Many things have occurred for the further development of the area through the employment of machines in agriculture, for which these regions are especially suited. The cultivation of rice, soy beans, and sugar beets has been especially fostered in the last few years. The cultivation of sugar beets was introduced here as a new cultivated plant only under Soviet rule. Nothing can be said about the collectivization, which was carried out later in the Far East than in the European part of the Soviet Union and which was carried out only gradually. Nor can anything be said about the type of organization in this area filled with men of the most varying types.

/271/ /Sketch Map:/

/272/Voroshilov constitutes the center of this important agricultural area. Voroshilov lies at the point where the Ussuri Railroad meets the Manchurian Railroad, which, hurrying from Transbaykal across Manchuria, again enters Soviet Russian territory here. The city lies 30 meters above the sea and is 102 kilometers from Vladivostok. It has 70,600 inhabitants (1939) and is the center of a lively food industry. It has a large oil and fat works for processing soy beans. To this works also belongs a soap-boiler and a factory for cosmetic articles. The city has special importance as the seat of two first and largest sugar factories in the Far East. The city of Spassk (approximately 30,000 inhabitants), which lies southeast of Khanka Lake, should be mentioned as the next most important locality. In addition to flour mills and oil pressers, Spassk has the largest cement factory in the Far East. As the last locality on the railroad before the Manchurian border, Grodekovo (approximately 10,000 inhabitants) is worthy of mention. Grodekovo already lies in the western mountains, but with its predominantly wooden houses, it gives a typically Russian border impression, despite its nearness to the border.

From Voroshilov the railroad leads to the south first through hilly country, then, 30 kilometers from Voroshilov, it crosses some

361 low ridges of the Sikhote-Alin' and enters the Muravyev-Amurskiy Peninsula and finally reaches Vladivostok, the main town and the most important harbor of the Soviet Union on the Pacific.

Vladivostok was founded in 1860. In 1872 the base of the Russian Pacific naval fleet was transferred here from Nikolayevsk on the Amur, and since then Vladivostok has been the center of the military power of the land on the Pacific. Economically, however, the city developed only slowly. In 1882 only 5,000 persons lived in the city. At the same time somewhat regular shipping between Vladivostok and the Black Sea harbors of Russia was taken up. However, the city's rise to become the economic center of the land began only after the construction of the Ussuri and Manchurian Railroad. [504] Through this railroad Vladivostok first became an important Pacific harbor, especially in transit shipping, and in this it is a harbor for all of northern Manchuria. The more recent development of the city into an industrial city has also kept pace with its development into an important harbor. [161] In 1897 the city had a population of 21,000 persons; in 1914 it was 59,000; in 1926 it was 107,980; and in 1939 it was 206,400. At present it is more than 300,000.

361 133 504 The city lies on the well protected and deep bay of the "Golden Horn" at the southern end of the Muravyev Peninsula opposite the large Russkiy Island, which is richly divided up. The peninsula and the island are separated by the "Eastern Bosporus," which extends from the Amur Bay in the west to the Ussuri Bay toward the east. The harbor is unique and one of the best natural harbors in the world, as the designations already indicate. The "Golden Horn" penetrates from the south into the Murayev Peninsula and bends then almost at a right angle toward the east (see map). /273/ /Sketch Map of Vladivostok and the Southern Coast/ 1/ 274/ The north-south section forms the outer bay and is 3 kilometers long; the west-east section constitutes the inner, harbor bay and is 3.2 kilometers long. The width of the "Golden Horn" is 800 to 1,000 meters; the depth in the interior is 10 meters, and at the entrance of the bay it is 28 meters. Mountains surround the bay and protect it from the cold northwest and west winds. Mountains also rise 50 to 100 meters on the Shkota Peninsula, which separates the outer bay from the Amur Bay. Nevertheless, 361 504 the harbor freezes for three to four months every year, and throughout the winter three ice breakers are in uninterrupted service to keep the harbor and the entrance free of ice. The outer bay and the western part of the inner bay above all belong to the commercial harbor, while

1/ [Cf. cat. 116, p. 317 -- Analyst]

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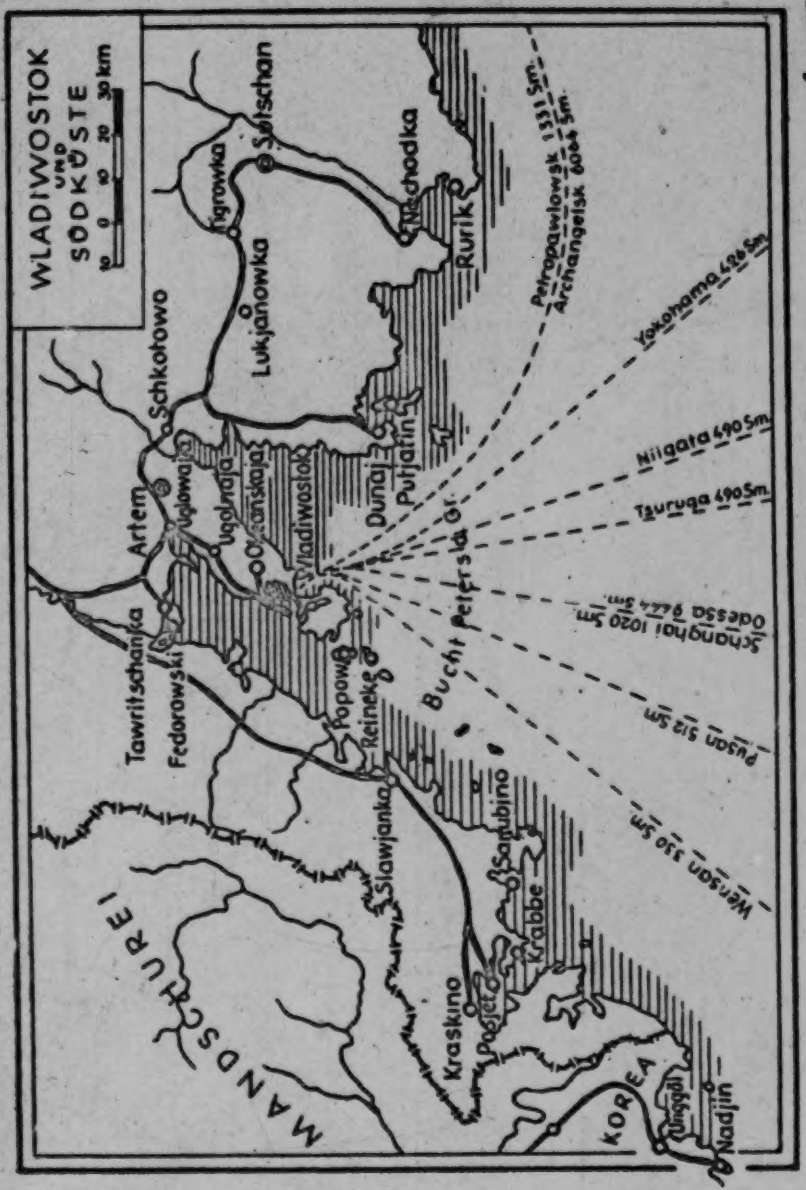


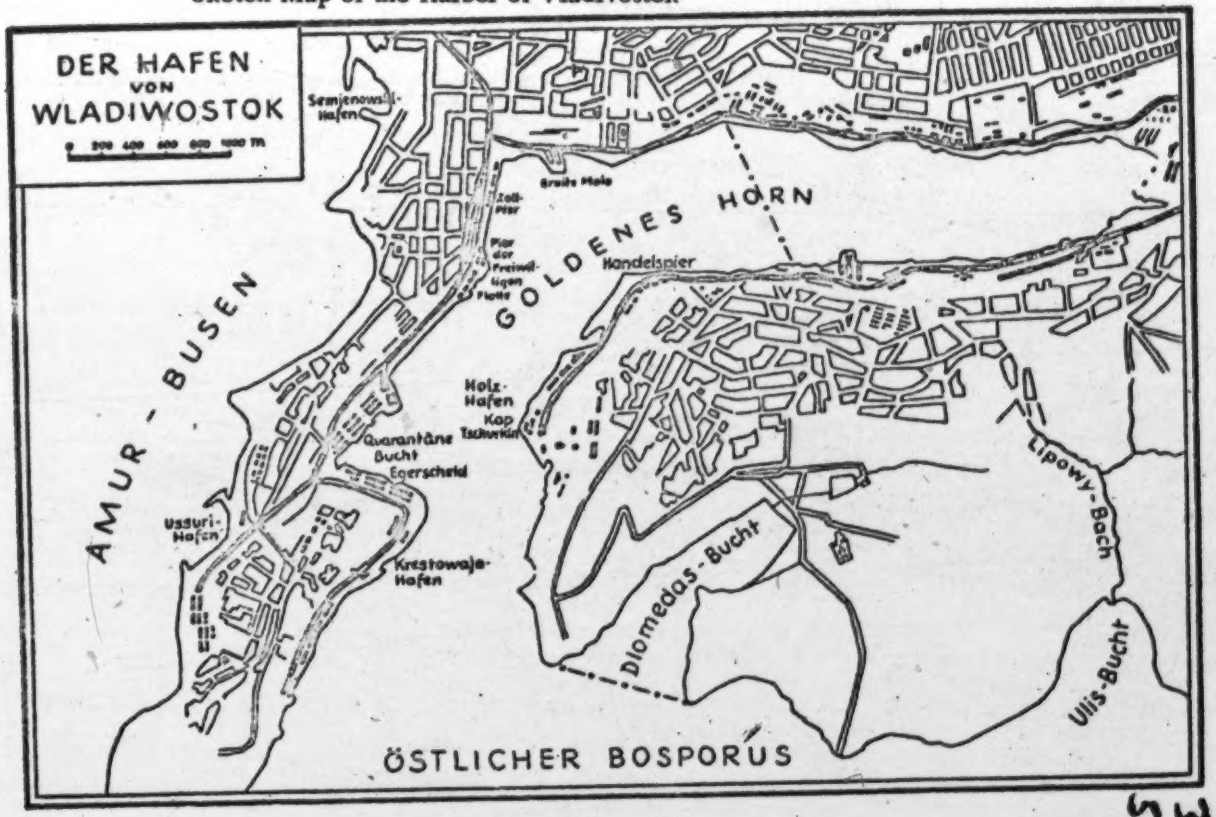
Sketch Map of Vladivostok and the Southern Coast

the section farthest in of the inner bay has been built up as a naval harbor and is closed to commercial ships. Additional harbor installations lie on the "Eastern Bosporus" and on the outer side of the Shkota Peninsula. In detail the harbor houses the following installations: 361 504

1. Krestovaya Harbor: It stretches at the foot of Krestovaya Mountain, which is 94 meters high, and has quays which are 486 meters long. This harbor is used especially in the winter since it is easiest to keep the waters open here.
2. The Egersheld, which is at the same time a quarantine harbor and which has a quay almost 950 meters long. Here the most active life prevails in the summer. This harbor is specially built up for the turnover of grain, and it has the most modern loading equipment and granaries.
3. The Harbor of the "Voluntary Fleet" (Dobrovolnyi Flot). It received its name from the Organization of the "Voluntary Fleet," which was founded in 1870 and which was the first to take up the task of connecting the mother country with the Far East.
4. The Customs Pier and the so-called "Wide Mole," which takes up the northwestern angle of the Golden Horn.
5. The Commercial Pier with the "Wide Pier" (Shirokiy Pir) on the southern side of the bay. This has extensive track installations and the largest storehouses. The quay installations are 1 kilometer long.
6. The Wood Harbor, which lies somewhat farther south on Cape Churkin.
7. The Ussuri Railroad Harbor on the western side of the Shkota Peninsula. This has extensive installations for oil and petroleum.
8. The Semyonovskiy Bazar, which likewise lies on Amur Bay. It serves coastal traffic predominantly.

All the quay installations together have a total length of more than 4 kilometers, and the network of tracks, which span the harbor and all its installations, is 335 kilometers long (1937). From 1933 to 1939 there was a further building up of the harbor, and thus it is in a position to handle an annual turnover of 4 to 5 million tons. In the first period of the development of Vladivostok, the supplying of water caused some difficulties. But these have now been overcome by means of a large water storage installation on the /275/ /Sketch Map of the Harbor of Vladivostok/ /276/ so-called "Second Little River" (Vtoraya Rechka) and by means of the filtering installation, holding 100,000 tons, on the inner edge of Ulis Bay, into which Lipovyy Brook flows. 361 312

Sketch Map of the Harbor of Vladivostok



3: Thiel-319 K-4,5 (no date) 1953 RR1 Siberia RR1

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361 The city of Vladivostok itself is very narrow in the overall installation. It encloses the "Golden Horn" and also stretches along Amur Bay. A section of the city also lies on the northern end of Russkiy Island opposite the entrance into the "Golden Horn." The hills rising quickly from the coast give an almost southern appearance to the view of the city with its rows of houses rising on the slopes. The main streets as a rule run parallel to the coast. The secondary streets are often so steep that they can be traveled only with difficulty. In contrast to the narrowness of the city and the tasteless apartment houses and business houses crowding the city, the varied, green surroundings, which are decorated by numerous, beautifully situated summer houses, appear especially pleasant. Russians constitute the [162] overwhelming majority of the population, but the percentage of Chinese and Koreans is very significant. In 1926 there were 23,400 Chinese, 7,000 Koreans, and 600 Japanese in a total population of 107,000. The Chinese as a rule are unmarried and work by preference as harbor workers.

361 Vladivostok is not only a harbor city, but it also has developed into an industrial city. In first place here is the fish industry, which, [255] however, is not concentrated solely in the city but rather is distributed over many localities in the immediate and more distant environs of the city. The fish industry is occupied predominantly with the canning of fish and crabs. Numerous fishing collection points along the entire southern coast supply the material. The most important localities lie on bays or on islands. The most important places are Nakhodka, where a railroad line from Suchan ends, Sarubino, and the islands of Popova, Reineke, and Putyatin. In second place is the wood industry, [322] which processes valuable deciduous trees and supplied wood products such as matches, veneer sheets, and furniture. In addition, the city also has flour and rice mills, leather factories and soap boilers. [396] Vladivostok has great importance as a naval harbor and a shipyard, [399] especially for naval ships. There is in addition a plant for constructing airplanes. An oil refinery supplements the entire industrial and [382] transportation economy. Among the numerous scientific institutions in Vladivostok, the branch office of the Academy of Sciences is [815] especially prominent. It has an important share in the exploration of the Far East.

361 Apart from this fish industry, which is distributed among 322 numerous localities along the coast, the area around Vladivostok is also rather richly equipped with other industrial installations. Among

these the wood industry should be mentioned in first place. It is concentrated above all in Shkotovo (approximately 10,000 inhabitants) and Tigrovka (approximately 5,000 inhabitants), both of which lie on the railroad line to Suchan. The wood industry is also concentrated in Okeanskaya (approximately 2,300 /277/ inhabitants) to the north of Vladivostok, where a large wood factory delivers veneer wood for export.

The industry in Vladivostok, like industry generally in the southern Ussuri country, is based on coal, which is on hand here in rich measure. Besides the various smaller coal mining localities, Artem and Suchan should be mentioned here as the principal localities producing coal. Already by 1938 the coal mined in Artem exceeded that mined in Suchan by threefold, and since then coal mining in Artem has been very much further increased. To Artem belong also the two coal districts, Ugol'naya and Trudovaya. The new railroad line, which leads along the western coast of the Bay of Peter the Great to Pos'yet and Kraskino, connects the most important coastal localities, which above all pursue the catching of fish. In the same region there are some sovkhoz for breeding stags at Peschanaya, in Krabbe, and on the Gamova Peninsula.

Sakhalin Island

Sakhalin came to Russia through the treaties of Aigun (1858) and of Peking (1860). However, until 1871 Russia had to share possession of the island with Japan, which in early times had already erected numerous factories in the southern part of the island. Through the unhappy Russo-Japanese War, Russia lost the southern half of the island to Japan. The fiftieth latitude was determined as the boundary line. The outcome of World War II brought the Soviet Union again in possession of the entire island.

Sakhalin covers 80,000 square kilometers and stretches from north to south in an almost meridional direction for about 1,000 kilometers. Once feared as a prisoners' colony of the Czarist empire, the island is notorious for its raw climate. The famous Russian writer A. Chekhov writes, "Sakhalin has no climate at all; the weather is eternally bad and gloomy." The island owes this unhappy reputation to the influence of the cool Sea of Okhotsk, to which the bulk of the island is fully given over. The greatest part of the island is covered with thick forests, which recall the taiga of Siberia. Along the coast

137 bamboos (Sasa Kurilensis), which, however, are limited to the western mountain range. This is the only region in the Soviet Union in which bamboo grows wild. In places the bamboo forms a thicket which appears almost tropical and which is difficult to get through.

563 162 231 The native population in northern Sakhalin is very small in number and comprises some thousand Gilyak and Orok. The Gilyak reside more at the mouths of rivers on the coast and provide for themselves by fishing and hunting. The Orok occupy themselves principally with the breeding of reindeer; for this they wander as nomads, even though within narrow borders, between the moss steppes in summer and the border regions of the taiga. The number of reindeer is modest.

563 162 The Russian population in northern Sakhalin has increased many times in number in the last three decades. In 1926 it was estimated to be 20,000, but already before World War II it grew more 361 than 100,000, and since then it has further increased. The population is concentrated essentially in three areas: Aleksandrovsk and the western coastal strip, /281/ which is made prominent economically by its coal mining; then the oil district in the north and on the northeastern coast; and, finally, in the valley of the Tym' and Poronay, which has a smaller percentage of the population. The population 433 here is more agricultural. In general, however, the agrarian economy is still little developed. In the last few years the Soviet administration has striven to ensure food for the industrial population both in the coal oil regions at least in part from local production. To be sure, the areas under cultivation are planted with bread grains, especially in the protected longitudinal valley, where there is a large number of kolkhoz and sovkhoz; however, the production yields only slight surpluses. In the other regions the climatic conditions are too unfavorable to be able to develop cultivation of grain in a grand style here. On 244 the other hand, it is different with the cultivation of potatoes, cabbage, and vegetables. Great successes are to be recorded in this connection. Especially prominent are the high yields of the potato harvests. On the basis of this experience a transition has been made in very recent times--apart from supplying the necessary potatoes for human nourishment--to enlarging the cultivation of potatoes in a planned fashion and to developing the breeding of pigs on a large scale on the basis of this. There are numerous reports of success on this.

361 The capital of northern Sakhalin (the capital of the oblast is now Yuzhno-Sakhalinsk) is Aleksandrovsk, which has approximately 20,000 inhabitants. It is the export harbor of the coal region. The

The harbor has in very recent times been expanded and provided with modern loading equipment. Since the Tatar Sound is very shallow, this equipment had to be moved very far out into the sea. To be mentioned in second place is Okha (approximately 25,000 inhabitants), the most important center of the oil region on the northeastern coast. During the last war the city got a sea harbor of its own, which is supposed to be usable throughout the entire year. South of Okha lies Ekhabi, which has often been mentioned recently for its rising oil production. A railroad and an oil pipe lead from Okha to the oil harbor of Moskal'vo, which lies on the eastern side of Baykal Bay in the northern part of the island. Furthermore, in the past few years there have been established along the coast numerous, permanently inhabited fishing bases, which give life to the entire picture along the coastal strip. The largest part of the interior is still untouched and given over even today to the native population and their primitive economy.

In southern Sakhalin (Karafuto), which was formerly Japanese, the natural landscapes continue as they have already been generally described. The western mountain range, which here has heights of up to 1,375 meters, forms the backbone and stretches to the south beyond the 46th latitude, while the eastern mountain range already ends north of the 49th /282/ latitude. The Poronay Valley ends even before that after it has spread out to a width of 30 kilometers.

As in northern Sakhalin, so here, too, the largest part of the land is covered with primeval forests, which consist of the same type of trees as in the north, only here the percentage of deciduous trees is larger and increases especially on the lower slopes and last spurs of the western mountain range. Even though the climatic conditions became somewhat milder with the southern location, tundra-like moss steppes appear here also. Reindeer breeding is still pursued today by the native population, the Orok and the Tungus.

The population of southern Sakhalin was 332,000 in 1936 and 412,000 in 1940; the increase can be traced for the most part to immigration from Japan. Of the old, native peoples scarcely 2,000 existed; of these the Ainu, who number 1,500, constitute the main part. The rest is divided among Gilyak, Orok, and other Tungus tribes.

The economic importance of southern Sakhalin lies in the wood supply of its forests, in its coal deposits, and in the wealth of fish in the waters near the coast. The Japanese have done much for the economic development of the land and also have attained much. Above all they are to be thanked for the opening up of the land through

watershed regions, and thus he can still go forward best along the slopes.

The Amgun region is as good as uninhabited. Only on the largest rivers is human life to be encountered here and there: wooden huts of some Gilyak or also of Tungus Olcha and Negidal, who live from fishing and hunting. On the Amgun itself, however, there are already Russian settlers, who have come together into some small localities. The most important is Kerbi which lies at the mouth of the river of the same name. The Amgun can be traveled by small steamers as far as Kerbi. The Amgun brings goods to supply the area here, and the goods are then towed in boats down the Kerbi to the gold regions.

The valley of the Tugur becomes up to 20 kilometers wide and gives the same picture. Here, too, moss moors extend far down the valley. The swampiness is strengthened here still more by the appearance of permafrost.

/286/ The river area of the Uda is very extensive. In the Uda collect waters which come from the Dzhagdy Mountain Range and also from the Dzhugdzhur Ridge. The Uda's left tributary, the Maya, which is more than 300 kilometers long, separates the Stanovoy from the Dzhugdzhur. Here, too, the great swampiness causes the traveler great difficulties. The Uda is a mountain river and flows seethingly in a bed filled with boulders and interrupted with numerous rocky islands. Only in its lower course does the Uda become quiet. Here lies Udskoye, a small Russian village, which is the center of the hunting of fur-bearing animals. This hunting still brings very rich yields in these remote mountain regions.

The Okhotsk Coastal Area

The area includes the entire western and northern coastal region of the Sea of Okhotsk, beginning at the Uda in the south and ending at Penzhina Bay in the north. With the coast being more than 2,000 kilometers long, the conditions, of course, vary in detail, but in general the prevailing character of a raw mountain forest landscape with a damp and cool climate is preserved, which is less tolerable for man than the harsh contrasts of the continental interior.

The region can be divided into two parts according to the structure of the coast and according to its forms: a southwestern part between the Uda and Okhotsk with coast which is little divided up and a northeastern part which is heavily broken up by numerous large and

small bays, peninsulas, and islands. The character of the southwestern part is determined only by a line of mountains stretching parallel to the coast, the Dzhugdzhur; in the northeastern part ridges of mountain ranges are predominant which stretch irregularly toward the line of the coast. 133

In the western part, the Dzhugdzhur coast, the mountain ridges go right down to the sea and leave free for settlement by man a narrow coastal strip, which at most widens somewhat at the mouths of the rivers. The Primorskiy Ridge, which lies in front of the Dzhugzhur chain in the south between the Uda and the Ayan, even declines directly and steeply into the sea. The Dzhugdzhur, which stretches parallel to the coast and consists of several ridges, forms a contiguous mountain wall with its masses formed predominantly of granite, gneiss, and porphyry. This mountain wall shuts off the coast from the interior. The mean height exceeds 1,000 meters, and the few unprotected passes also lie almost as high. The watershed runs in the vicinity of the coast, and thus along the entire coast only short rivers, which, however, seethe because of the steep slope, flow down into the sea. Therefore, the deeply etched valleys opening on the sea stand in sharp contrast to the more horizontal lines of the round peaked surface of the massif of the mountain range. The valleys are filled with thick /287/ taiga, teeming with underwood, and, with the narrow bottom of the valley saturated with boulders and scree, these valleys offer man only a very difficult opportunity to penetrate into the mountain range; and yet these sharply etched and steeply rising valleys are the sole routes which lead from the coast into the interior of the land. Thus the fact that the coastal strip is cut off from the hinterland is a special mark of this region. The ridge is more thickly forested only on the slopes, while the heights themselves have only a spotty, crippled growth of trees or lie completely bare in the highest places. The passes, too, mostly lie above the tree line and are scarcely usable in winter as a consequence of violent snowstorms.

The interior of the mountain ridge is as good as uninhabited. 361 • 505 Apart from hunters, only a few Tungus with small reindeer herds cross the desolate mountain areas. On the coast there are a series of Russian fishing settlements. The principal locality here is Ayan. It lies on a favorable natural bay, which is approximately 1 kilometer both long and wide and 6 to 38 meters deep. Since the entire Dzhugdzhur coast is blocked by ice in the winter, the harbor can be used only in summer, although constant violent sea winds often hamper the departure of sea

361 ships and indeed in many instances make departure impossible. From
505 Ayan a route starts toward Yakutsk. This route rises steeply over the mountain range to Nel'kam on the Maya, a left tributary of the Aldan. From here the rest of the way is on the rivers, via the Maya, the Aldan, to the Lena. Ayan, which is notorious for its heavy rainfall, cannot really make progress despite its favorable natural harbor; and, although the beginnings of its development reach far back, Ayan has scarcely 1,000 inhabitants.

361 In the north the Dzhugdzhur Ridge bends away from the coast and makes way for a vast coastal lowland which penetrates deeply into the land. Here, at the mouth of the Okhota, which forms a good natural harbor, lies the village city of Okhotsk, the first and oldest harbor of the Russians on the Pacific. In addition to a telegraph line, Okhotsk has a land route connection with Yakutsk. The use of this route causes fewer difficulties than the route from Ayan. At present Okhotsk is an
563 important fish collection point. On the coast and also in the hinterland
241 of the depression, numerous Russians have settled. In addition to an
231 agricultural economy based on the cultivation of potatoes and vegetables, these Russians devote themselves to the breeding of livestock, which does very well here in the natural meadows of the alluvial plains. Tungus Lamut have joined the Russians, too. These Lamut, in addition to fishing, devote themselves also to agriculture, which they have taken over from the Russians. They apply themselves with the same care to the ox as for generations they have done with the reindeer. Farther in the hinterland of the lowland there are still Reindeer Tungus in large numbers. These Tungus wander as nomads between the bottom of the valley and the mountain tundra.

133 Northeast of Okhotsk the coastal provinces /288/ have another, more varied character. There is not, as is often still represented on many maps, an interrelated mountain chain which runs parallel to the coast; at least there is none between Okhotsk and the Yama, a river east of the P'yagina Peninsula. On the contrary, east of the Okhotsk, spurs of the Cherskiy Mountain Range run into the coast almost at right angles, and between these spurs relatively wide and long valley areas stretch from the coast far into the interior. In addition, in order to make the picture more colorful, there is farther to the east another orographic element, which is limited, however, to the peninsulas and islands. This is a heavily destroyed and broken up mountain chain, which runs approximately parallel to the coast and which, according to the present level of knowledge, is reckoned as belonging to the inner arc of the

137 The mountain ridges themselves are either bare or have underbrush and reindeer moss growing on them.

361 563 As a consequence of the contrasts between the protected valley areas and the ridges covered with moss tundra, the hinterland of the coast here is occupied far more by Tungus reindeer nomads than the Dzhugdzhur coast. Also, despite the northern location, the number of coastal localities is larger here than there. Russians, however, are to be found here less often. These localities are predominantly occupied by sea Tungus, who, however, all cultivate some vegetables and potatoes in addition to their fishing. Also--a fact that is especially noteworthy--they follow the Russian example and keep cattle and horses. However, the opportunities which are available here for breeding livestock have still not been long exploited, and thus there are the most favorable prospects here, especially since sufficient hay fields are on hand to assure the supply of winter fodder. The most important localities on the coast are Tauysk, Ola, Yamsk, and Gizhiga, all of which lie at the mouths of the rivers of the same [505] names. During the summer, connection between these localities is [487] maintained by small coastal steamers; during the winter the connection is over the so-called coastal route which leads from Okhotsk along the coast to Kamchatka and which is traveled by horse, reindeer, and dog sleds. All of these coastal localities, however, are exceeded in importance by the newly founded city of Magadan, which came into being only shortly before the last world war and which has already far surpassed the old Okhotsk as a harbor.

135 Magadan owes its founding and its rapid growth above all to the hinterland which is rich in natural resources. Here in the area around the upper course of the Kolyma extraordinarily rich gold fields have been discovered; mine gold as well as gold streams have been found. A more exact exploration of the region showed the existence of hard coal and significant supplies of less common elements. The 361 exploitation, which was taken up rapidly, led to the formation of numerous new localities, and thus there are now more than 50 settlements in the upper Kolyma region. The centers of industrial life lie in the area around the source of the Kolyma and on its tributaries, the Berelyakh and Tenka. The most important of the new localities are Orotukan and Khatynakh. For connection with the outside world 491 a highway was built which can be used throughout the year; this highway leads from Ust'-Utinaya to Magadan on the coast. Since the Kolyma is navigable from Ust'-Utinaya on, this highway has at the

same time created the shortest connection with the entire Kolyma region. The highway is more than 1,000 kilometers long and was built under the most difficult of conditions (mountain ranges, permafrost). Bases connected with small agricultural economies /290/ facilitates the use of the road. The harbor of Magadan lies on Nagayevo Bay. Steep rocks are artificially heaped up at the foot of the landing places for sea-going ships. Ice breakers are employed in the harbor to make it possible to use the harbor for a longer period. The rapidly growing city, which in 1939 already had more than 10,000 inhabitants and today is estimated to have 50,000 inhabitants, lies somewhat at a distance from the harbor and is separated from it by a flat, rocky hill. The construction of the city was done with the most modern means. They have even succeeded in building stable six-story skyscrapers, despite the permafrost, by using deep excavations and by laying in insulating layers.

The Provinces of the Extreme Northeast

These regions are bordered on the west by the Kolyma Mountain Range, and they are divided into the Chukchi Peninsula, the Anadyr' and Penzhina region, and the Koryak Mountain Range. Of these areas only the strip along the coast is better known; the vast interior, on the other hand, is mostly still insufficiently explored.

The Chukchi Peninsula is cut off from the Asiatic contintent on the one side by Chaun Bay on the Arctic Ocean and on the other side by Anadyr' Bay on the Bering Sea. The southern border is formed by the Anadyr' Mountain Range, which represents the watershed between the Arctic Ocean rivers and the Anadyr', and which is more than 1,000 meters high. The region north of the Anadyr' Mountain Range is also filled with lines of mountain ranges almost as far as the coast of the Arctic Ocean. These mountain ranges stretch in a direction from west to east. Further toward the east the contiguous, broad mountain landscape is lost, and the mountain ranges form themselves into two ridges which lie under 800 meters and which, broken through several times by rivers, reach the east coast with the northern mountain range going in the direction of Cape Dezhnev. The cape itself, which lies 77 kilometers from the mainland of Alaska, consists of a single, massive mountain which is 770 meters high and which is formed from limestone. This mountain is completely isolated and is connected with the mainland only by a low, narrow tongue of land, which is

smaller forests appear, and then mostly with badly gown and crippled trees. 137

Permanent settlements exist only on the coast and those are mostly on the Bering Sea. In them live the Maritime Chukchee who devote themselves to the catching of fish and sea animals, and in some villages there are also Eskimo. The sections of the sea near the coast of the Chukchi Peninsula are especially rich in walruses, which are among the main animals hunted here. There are no larger localities. Except for officials, no Russians remain here permanently. The interior of the peninsula is occupied by Reindeer Chukchee, a powerful people, capable of resistance, who own great herds and who are depicted as excellent in the breeding of reindeer. However, because of their small number the general density of population is very low and reaches only approximately 0.03 per square kilometer, and thus one can traverse great stretches without encountering a man. Very recently exploration has uncovered valuable natural resources in numerous places. Thus, iron ore, copper, mine gold, graphite, molybdenum, and also hard coal have been found. Hard coal outcroppings are known directly on the coast of Mechigmenskaya Bay and also in the environs of Cape Serdtse-Kamen'. Pieces of hard coal of excellent quality were also found by Chukchee in the interior. /292/ The greatest part of the natural resources determined to date lie on the east coast, since this alone has to date undergone a more exact investigation. The findings to date permit one to assume, on the basis of the same geological structure, that there are more deposits, and thus in them perhaps one side of the future development of the Chukchi Peninsula is indicated. 361 563 [225] [161] 135

The Anadyr' region lies south of the Chukchi Peninsula and is bordered on the west by the Anadyr' Plateau and on the south by the Koryak Mountain Range. The central part of this region is taken up by an extensive depression, which is filled with Cretaceous and Tertiary deposits. For the most part this depression is completely level, but it is not unified, for from the north as from the south mountain ranges project into the depression or rise directly from the plain. To the south of the Anadyr', east of its tributary the Mayn are the Alganskye Mountains, which are up to 500 meters high. The course of all these mountain chains and mountain ridges has still been very little explored in detail. 133

The Anadyr' comes down from the plateau of the same name, and in its upper course, where it is up to 170 meters wide, it has the

almost never penetrates into the land, however.

The area occupied by settlements is very slight in the east and in the center of the depression. In the west, on the other hand, there are a series of villages on the Anadyr' and its tributaries. Among these, Markovo with its approximately 500 inhabitants has first rank. Russians, too, live in the villages, but otherwise the population is mostly sedentary Koryak, who pursue fishing and the breeding of dogs. In the peripheral regions Chukchee wander more in the north as nomadic reindeer breeders, Koryak wander in the south, and Laumut and other Tungus in the west. Alternation between the excellent mountain tundra in the protected depressions in the winter forms the basis of their life. In large part, these people are still fully nomadic. However, everywhere among them the effort is being maintained to create fixed, permanent winter quarters; and thus with many of these tribes, especially with the Koryak, a transition to semi-nomadism can be determined. Collectivization also has not stopped at these peoples. In 1948 there were in the Koryak National Okrug 40 livestock-breeding kolkhoz (reindeer), in some of which slight quantities of potatoes and vegetables were cultivated. At 70 points along the coast the Koryak have been brought together into fishing collectives.

There are only a few settlements on the coast because of its flat relief offering little protection from the storms. However, the locality of Anadyr', which has almost 2,000 inhabitants and lies at the mouth of the river of the same name, assumes a central position here. This town forms the entrance gate to the entire Anadyr' region and is regularly visited by coastal steamers. A short while ago rather large Eocene brown coal fields were found in the vicinity of the locality. The main deposit stretches opposite Anadyr' on the northern side of the mouth of the Anadyr' from the point where the Ugol'naya flows into the foot of the Zoloty Mountain Range. On both sides of the mouth of the Ugol'naya appear two seams, which have a thickness of 1.5 meters and 5.8 meters. Mining is already underway here /294/ and supplies the coastal steamers. In addition, Anadyr' is the central station of state fishing on the entire northern coast; here the catch of the individual fish collection points are delivered and processed in an important canning factory.

Toward the southwest the Anadyr' depression goes over into the Penzhina lowland, the two being separated only by a gently rolling watershed which is up to 331 meters high. The Penzhina lowland, however, is far smaller in size, and is drained by the Penzhina which

133 flows into the Sea of Okhotsk. In comparison with the Anadyr' region the climate here in the Penzhina lowland is somewhat milder. The [137] inclination of the ground is greater, and thus the moss steppes widely diffused here are not so very swampy: the larger rivers are accompanied by poplar forests almost everywhere. Toward the mountains there is the same alternation in the vegetation picture as there. At the mouth of the Penzhina lies Kamenskoye, where the coastal steamers land. 361 563 The capital, Penzhina, itself is a small village lying in the middle of a lonely moss steppe in the interior of the region. Koryak constitute the majority of the small population. They are in part sedentary, living as fishermen in the villages, or they wander as nomads with their reindeer herds on the good grazing grounds of the moss steppes. 135 In the Tertiary layers, which fill the Penzhina basin, coal-bearing series have recently been found, which also contain lighter lignite in addition to brown coal of good quality. The deposits are said to stretch almost over the entire Penzhina basin.

133 On the east the Penzhina lowland is bordered by a flat mountain ridge, the Penzhina Mountain Range. The very long moss steppe, the Parapolskiy-Dol, whose character is like that of the Penzhina lowland, stretches on the other side of the Penzhina Mountain Range from southwest to northeast. In the south this moss steppe widens and traverses the entire land narrows which connects Kamchatka with the mainland. Here in the middle of the land narrows the moss steppe reaches a height of 155 meters.

The region between the mouth of the Anadyr' in the north and the land narrows in the south is taken up by a still little known central mountain range, which is usually designated the Koryak Mountain Range, after its principal population. This mountain range fills the entire area as far as the east coast, and its waters in the main empty into the Bering Sea. Traversing the land which is mostly formed like a high plateau are three lines of mountain ranges: the Pal-Mal, the Tingeney, and the Rarytkin Ridge. Like the entire Koryak Mountain Range generally, these three belong to the outer zone of the Tertiary faulting belt and are regarded as a continuation of the Kamchatka Mountain Range. In contrast to the interior which is like a high plateau with a general height of 500 meters, the rivers flowing toward the coast are deeply dug in, and thus from the sea an impression more like a mountain range arises. The bulk of the surface is covered with tundra, only the more protected places and valleys have forests. Reindeer-breeding Koryak inhabit the interior and also constitute the population of the /295/ fishing settlements on the coast.

population of the /295/ fishing settlements on the coast. The center of the fishing and the processing of fish is Ust'-Apuka, west of Cape Olyutorskiy. 361 563

Tertiary brown coal deposits have also been found in the Koryak Mountain Range in Korff Bay in the south and in the Ugol'naya Bay in the extreme northeast. In Korff Bay the deposits have already been mined for years, and the coal from here is used to supply coastal shipping. The coal here is of Miocene age and is contained, as far as the supplies have been investigated to date, in 11 seams with a total thickness of 20 meters. In this the quality of the upper seams is very different from that of the lower seams. The uppermost seam represents typical lignite; the lower seams, on the other hand, are like a gleaming, bituminous coal. Mining is supposed to have been taken up in Ugol'naya Bay also, and a coal base is likewise supposed to have been erected. 135

Kamchatka Peninsula

Like a spearhead Kamchatka Peninsula projects toward the south, separating the Bering Sea from the Sea of Okhotsk. The peninsula covers 270,000 square kilometers and has a length of 1,200 kilometers, which corresponds approximately to the distance from Berlin to Rome. 133

South of the Parapolskiy Dol plateau which stretches across the land narrows, the first lines of heights begin, and these then develop into two mountain chains as the peninsula widens. Between these two chains, the western and the eastern, is imbedded the valley of the Kamchatka River.

The low medium mountain range of the west increases considerably in height south of the Palana River. In the area of the Tigil' River the main chain is richly divided up, is accompanied by parallel chains, and reaches already a height of 1,650 meters. In the area around the source of the Bystraya and the Icha rises the truncated volcano cone of the Ichinskaya Sopka, which projects over its approximately 1,200 meter high ground area to the gigantic height of 3,607 meters. The mighty dome of the mountains is covered with glaciers, from which some hanging glaciers flow down. The water from the melting of these hanging glaciers has torn deep furrows. The Ichinskaya Sopka is the sole active volcano in the western half of Kamchatka; thick smoke rises constantly from its crater. South of the Icha the character of the mountain range changes basically. North of the Icha,

133 Tertiary sandstone and eruptive elements predominate; but to the south, on the other hand, slate, granite, syenite, and porphyry appear predominantly, forming more massive ridges and round peaks. Gradually the height is lowered, and the western mountain range flows together with the eastern line of mountains to stretch then in a line to the southern tip of Kamchatka. The western mountain spurs and parallel chains have numerous old volcano cones, which often rise far beyond the vegetation line. The slender, basalt pointed cones of the Eleuken and the Moreshatnaya Sopka should be mentioned here above all.

/296/ From the sea there rises slowly a treeless moss steppe, which is often designated also as tundra. It rises to a height of 200 meters and then rises rapidly in mountainous forms to a height of 600 meters, whereupon the mountain range zone follows. Only in the extreme north, where the Penzhina Mountain Range stretches to the sea, is the west coast itself steep and also often rocky. For the entire remaining course of the coast, it is flat and represents a leveling coast /Ausgleichsküste/ with numerous narrow bays and coastal lakes. • [34] Many settlements, however mostly only small ones, lie in the damp coastal plain, which is in part also swampy. These settlements lie almost always on the lower courses of the rivers at a distance of 10 to 20 kilometers from the mouth, approximately at the border where the forest along the valleys from the mountain range runs into the moss steppe.

The eastern half of Kamchatka likewise forms a medium mountain range, but it has numerous high volcano mountains, whose thick andesite masses traverse the greater part of the land from the middle Yelovka in the north to the southern tip of the peninsula. The number of volcanos, of which 18 are still active, is far greater than in the western chain. The volcanos here lie mostly between the main ridge and the coast. Of the active volcanos, the following are the most important: The Shiveluch (3,335 meters) lies in the angle between the Yelovka and the lower Kamchatka. Its peak has six glaciers. The last eruption occurred in 1928. The Klyuchevskaya Sopka, which is likewise glaciated, rises to a height of 4,775 meters south of the point where the Kamchatka River breaks through the eastern mountain range. The Klyuchevskaya Sopka is the highest point on the peninsula. The volcano cone, which projects to its mighty height directly from the plain of the Kamchatka River with a slope inclination of 30°, is among the most impressive volcanos on the earth. Its last eruption

oblast is Palana, which lies on the river of the same name on the west coast. Almost half the Koryak are sedentary and live in wooden houses, built after the Russian model, in villages on the coast or on rivers, where they live from fishing and hunting. All breed the dog as a domestic animal. Already gardens, in which they grow potatoes and vegetables, are also very often to be found near their houses. The bulk of the Koryak, however, remain in /300/ reindeer breeding and are developing the same good qualities which the Chukchee possess in this respect. Apart from the Samoyed in the northern part of the European tundra, the Koryak and the Chukchee are the best reindeer breeders in the Soviet Union, and they also have more than a third of the total stock of reindeer in the USSR. The Kamchadal occupy the southern part of the west coast, the Kamchatka valley; and many of them are also to be found as workers in the fishing localities on the east coast. They are under the influence of the Russians in all things and have become completely sedentary. Fishing and hunting, however, have remained their principal occupations. But they have in many cases already given up the breeding of dogs and keep horses, which are more and more displacing the dog as the riding and draft animal in the southern part of Kamchatka. The cultivation of vegetables and potatoes has already become a rule with them. In the central, more remote part of Kamchatka, there still lives a smaller number of Tungus Lamut, who are only reindeer breeders. Hemmed in by the more progressive Koryak and Kamchadal, they constitute the poorest population on the peninsula. Their herds are only small ones, and during harsh winters they are to be encountered begging among the rich Reindeer Koryak.

The heavy immigration of Russians can be traced back to state guidance. In the years 1930 to 1933 alone 15,000 settlers came into the land. The capital Petropavlovsk had around 28,000 inhabitants in 1939, which was more than all Kamchatka had before 1914, and today Petropavlovsk's population is around 40,000. A great part of the increase in population can be traced back to the building up and the modernization of fishing and the catching of sea animals. Here there was formerly a shortage of workers, and this shortage forced them to bring thousands of seasonal workers every year to Kamchatka for the catching period. Among these seasonal workers there were many Koreans and Chinese. This shortage has been eliminated by immigration. Furthermore new industrial undertakings, especially complementary branches of the fish processing industry, have come

world. The crabs are extraordinarily large and attain lengths of half 228
a meter and more. They are drawn up from the bottom of the sea in
drag nets in which they get entangled. Worthy of mention in this [255]
connection are the floating crab canning factories, which are used on
the west coast and which carry out on board all the work from catching
to canning.

The capital of the peninsula is Petropavlovsk. The city lies 361 •
on Avacha Bay, which freezes over only exceptionally. The bay is
surrounded in a semi-circle by the panorama of high volcanos. The [504]
city's favorable natural harbor, which a short while ago got a ship-
yard with a dock for ships of up to 5,000 gross registered tons, gains
more and more in importance since the ships of the Northern Sea Route
spend the winter here before they start out on their trip to the north.
This applies especially to ships which regularly travel to the Kolyma
River in order to ensure supplies of heavy materials to the gold regions
on the upper course of the Kolyma. Petropavlovsk is the center of the
hunting of sea animals and of the industries connected with this. In
addition, the city also has fish processing installations, a brickyard, [258]
saw mills, and a can factory, which is of especial importance since
it supplies the necessary material to all the smaller fish processing
localities. In the treeless delta of the Kamchatka River lies Ust'-
Kamchatsk, the next most important locality on the peninsula. More
than 2,000 workers /302/ work in the canning factories there in the
summer. The locality, in addition, has a special importance as the
gateway to the interior of the peninsula, which can be reached easily
only through the Kamchatka valley, while the other approaches have
to overcome difficult passes. In increasing measure also wood is [313]
floated down the Kamchatka River to the coast, where it is processed
in and sent on from Ust'-Kamchatka. In the broad longitudinal valley
of the Kamchatka there are a series of villages, among which Verkhne
Kamchatsk and Mil'kovo should be mentioned. In this area removed [231]
from the coast, horses are kept, since supplying fish food for dogs
causes difficulties. At the inner entrance to the cross valley, at the
foot of the largest volcano cone, lies the village of Klyuchi, from
which the volcano receives its name. Here the traffic lines from the
interior merge and make the locality into a central trading place,
especially for fur goods. In addition to Russians and Koryak, some
Chinese and Koreans have also settled here. Klyuchi has a scientific [654]
observatory for the study and special observation of the Klyuchevskaya
Sopka. Below the village the Kamchatka widens into a sea decorated
with islands.

with islands.

361 228 The main locality on the west coast is Bol'sheretsk. It is the center of the crab and salmon fishing industry. All the catches of the numerous fish collection points flow in here for processing. The main fishing regions stretch from Cape Subchatyy to the southern tip of the peninsula, i.e., more in the southern half of the coast. Further to the north lies Palana, the cultural center of the Koryak.

371 In the future development of Kamchatka, exploitation of the natural resources will play an important role. The supplies of coal and oil have already been treated in detail in another place, and thus only a mention may be sufficient here. Also water power rich in energy is available here. Up until now only small water-power stations for supplying agriculture have existed, although there are also vast possibilities here. Thus Kamchatka shows a relatively favorable picture of its economic development to date with further good prospects for the future.

Commander Islands

133 Approximately 250 kilometers east of Kamchatka there arise alone from the sea the Commander Islands. They are separated from the peninsula by a sea channel which is 1,000 meters deep, while toward the Aleutians the floor of the sea sinks down deeper. The island group, which covers 2,150 square kilometers, consists of two large, inhabited islands, Bering Island and Copper Island, and of two small islands, on which only large numbers of sea parrots and aras make their home. The islands are of volcanic origin and consist principally of andesite tuff and basalt.

Bering Island forms in the north a flat, low-lying moss steppe, while a wild highland traverses the southern part. This highland pro-
132 jects up to 670 meters. The damp, cold, constantly foggy and rainy weather (coldest month -4°, July +11°, annual rainfall 500 millimeters) and heavy storms permit only a crippled growth of mountain ash and
137 willows to come up. The islands lie at the latitude of Moscow. All the more luxuriant is the growth of grass; the Hercules types, which grow to more than the height of a man, are especially striking.

133 Copper Island received its name from the copper enclosed in the volcanic stone. It is formed from a mountain ridge, which is divided into two parts by a land narrows and which descends steeply to the sea. The mountain ridge is broken up by several cross valleys.

are known regarding the total prisoner population, one thing is certain and that is that the entire Magadan enterprise is on a very large scale and that prisoners form the greatest majority of workers. Due to the fact that three known prisoner ships which were operating in 1940, the "Felix Dzherzhinskiy," "Uritsky," and "Dzhurma," are still plying the same Vladivostok-Magadan route, it is a reasonable assumption that the prisoner traffic is continuing. (Note: It is difficult to assume that these ships have changed the nature of their cargo inasmuch as it is definitely known that the holds of these ships were constructed in a special manner to transport large numbers of prisoners; although it is admittedly possible to change the internal structure of these three ships, it is dubious that this has been done, because it is known from reports from Radio Magadan that activities are being expanded throughout the Kolyma economy. Since the death rate has been so high in the past among prisoners, it is difficult to see how further development of the region could be undertaken without importing further number of prisoners every year.)

8) The City of Magadan: One of the results of Berzin's administration was the construction of the city of Magadan; by 1941 the population of this city had been estimated at approximately 70,000, composed of MVD officials and hired specialists who volunteered for service under the Dalstroy administration. It was further estimated that at that time there were some 50,000 such specialists scattered throughout the region. Another section of the population in the Magadan area, numbering a few thousands, was represented by exiles, mostly highly qualified experts whose work in Dalstroy had entitled them to some special privileges, although they are still subject to the MVD. Outside of the city of Magadan there were several big camps for prisoners with fluctuating populations.

The central streets of the city were lined with two- and three story houses. Electricity was provided by a power station which also supplied electricity to the taiga areas by means of wires strung over the surrounding mountain ridges.

The population of Magadan faced a problem in the procurement of foodstuffs. In an effort to relieve this situation, "Magadan has a large experimental farm equipped with hothouses. The latter already (1941) grew 'Kolyma' apples, pears, peaches, and even oranges, not to mention a variety of berries, while all kinds of vegetables are developed in the hotbeds, including cucumbers, cabbage, eggplant, muskmelon, and watermelon."[12] The chief problem in the attempts at agriculture was the geological ice. Repeated deep plowing of the soil, the use of fertilizer in great quantities, and similar measures have been used in scientific experiments and have achieved good results. Thus, in some places the ice formerly came to within one to two feet from the surface of the ground, but it has been pushed down to six or eight feet, which has made possible the cultivation of cereals. (Note: Agriculture in Magadan and the entire Kolyma region will be treated in a subsequent report.)

9) Summation: The entire Kolyma region is growing in importance constantly, and due to the produce obtained from this area, in addition to the increasing population, Magadan and the hinterland cannot be ignored or treated lightly. There are two general aspects of the Kolyma region which should be noted:

1) In the New York Times of 9 January 1946, it was reported that there is total gold supply in Moscow of between the wide range of two and ten billion dollars. The interesting aspect of this surmise is the fact that in 1925 or even in 1930 the Soviet government was forced to sell the treasures of Russian museums in order to pay for machinery that it had purchased abroad. Soviet gold has made its appearance only

[12] Dallin, op. cit., p. 133.